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Understanding Social Value Creation in Public Construction Projects
Using Systems Thinking

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Dedication

I dedicate this research to my parents, to my late mom who always believed in my potential,
and to my dad who supported me every step of the way.

Declaration

This thesis is submitted under the University of Salford rules and regulations for the award of a PhD degree by research.

I, Fady Farag, declare that I am responsible for the work undertaken in this thesis where there are no parts of the work in this thesis which have been submitted elsewhere for another degree qualification at this, or any other university.

Fady Farag
November 2018

Abbreviations

AR	Action Research
AZ	Activity Zone
CATWOE	Client-Actor-Transformation- Weltanschauung-Owner-Environment
CPTM	Consensus Primary Task Model
CSF	Critical Success Factor
CSR	Corporate Social Responsibility
EU	European Union
FSB	Federation of Small Builders
GDCPP	Generic Design and Construction Process Protocol
GDP	Gross Domestic Product
GST	General System Theory
HAS	Human Activity Systems
HM Treasury	Her Majesty Treasury
HoC	House of Commons
ITT	Invitation To Tender
M&E	Mechanical and Electric
NPD	New Product Development
OECD	Organisation for Economic Co-operation and Development
OJEU	Official Journal of the European Union
ONS	Office of National Statistics
PPP	Public Private Partnership
PFI	Private Finance Initiative
PQQ	Pre-Qualification Questionnaire
RD	Root Definition
RP	Rich Picture
SME	Small to Medium Enterprise
SROI	Social Return on Investment
SSM	Soft System Methodology
STAM	Systemic Textual Analysis Methodology
SV	Social Value
SVAZ	Social Value Activity Zone
UK	The United Kingdom
UN	United Nations

Abstract

Interest in social issues increased in EU member states and the UK where this interest was shown via public policy documents and governmental initiatives to create social value as part of the procurement activities of construction projects. This encouraged construction client organisations to use their buying power to create value for their local communities. However, after reviewing literature and reports about using procurement in creating social value and the factors affecting social value creation in construction projects, and stakeholders' perceptions of social value this research concluded that satisfaction with social value creation was disputed and contested. This was due to the soft, non-quantifiable nature of social value outcomes, the multiple perception about it in every stage of construction project, the gap between the social value strategies and the operational tools available and the varying impacts of factors influencing the performance of construction projects.

Accordingly, the researcher adopted an abductive approach and utilised Soft System Methodology (SSM) and the Generic Design and Construction Process Protocol (GDCPP) to understand how current processes in public construction projects are used to create social value. SSM was used because of its ability to investigate ill-defined issues and problem situations through using system's concepts in the investigation of these problem situations. Human Activity Systems which consist of activities to provide multiple perceptions to think about the problem situation. The GDCPP was used in association with the HAS models to produce the Social Value Activity Zone which is a set of, task driven, activities distributed across different construction project phases and performed by a cross-functional team to achieve social value objectives. The research's propositions and the SVAZ were developed through a pilot study that used expert panels to investigate current social value delivery processes and test the SSM and GDCPP approach. Then the research tested and validated the propositions and the SVAZ in four construction projects case studies which were selected according to the factors thought to influence social value in each project. The cases implied that client organisations who lead how Social Value was perceived achieved their objectives and were satisfied with it, despite the notion of social value varied from one stakeholder to the other because including social value in the core construction objectives and early involvement clarified how social value was viewed to other stakeholders.

Chapter 1 Introduction

1.1 Chapter Introduction

This chapter presents an overview of the research and its context. It starts with providing the research background and then introduces the rationale behind it. The chapter presents the research problem and, subsequently, the research question and the rest of the chapter is structured as follows:

- The research Aim and Objectives
- The research Methodology
- The research Scope
- The Research Structure
- Chapter Summary

1.2 Research Background

1.2.1 Public Procurement

Procuring public goods and services is among the economic pillars that any government offers to the communities they serve because they attract the attention of policymakers, public entities and procurement officers, due to the importance that such procurement holds across various governmental activities (Thai, 2001). Erridge (2005) explained that public organisations have three objectives to achieve by which their procurement exercises are measured against: firstly, regulatory requirements whereby public clients must comply with procurement procedures to have transparent, fair and open competitive procedures for bidders. Secondly, the commercial requirements whereby clients work towards achieving value for money through reducing cost (improving economic efficiency), improving public goods' and services' quality, and maximizing operational effectiveness through competitive tendering, outsourcing and contract bundling. Finally, the socioeconomic requirements where governments (both central and regional) utilise the procurement of goods and services as a tool to implement strategies aiming to improve social welfare through creating and delivering employment and training, social inclusion for ethnic minorities and regional economic development objectives. This utilisation of public expenditure as a tool to implement social strategies relied on public organisations' leadership and resources to satisfy public needs (Mulgan, 2009).

The USA and multiple European nations used public procurement to promote social policies (directed at achieving ethnic inclusion, reduction in unemployment and fighting poverty). After WWII, the British Government introduced a scheme to include disabled ex-service men into government contracts, the success of this led to targeting the disabled population of Great Britain in government contracts (McCrudden, 2004). Thai (2001) confirmed that contemporary governments were changing their approach towards public procurement by adding a strategic dimension to their purchasing activities to procure ethically and to develop socioeconomic

results. Consecutive governments in the UK used public procurement as a tool to fulfil growing social needs.

Recently published British policy documents and reports pointed out that the government aims at utilising the procurement of public projects in delivering additional socioeconomic objectives. The Infrastructure Projects Authority (2016), Farmer's (2016) Review, HM (2013) National Infrastructure Plan, the Public Service (Social Value) Act (2012) and the House of Commons Report on Improving Local Government Procurement (2014) suggest that public clients (agencies), local and/or central, should consider creating additional Social Value (SV) outcomes for local communities by approaching the market strategically. It has been stated that public clients in EU member states should use their buying power to deliver socioeconomic returns on investment for their local communities (The EU Public Procurement Directive, 2014). The Cabinet Office (2013) Procurement Policy Note suggested that the EU procurement directive changes planned in the 2014 directives are being introduced to accommodate the inclusion of outcomes with a social nature in the core delivery objectives of EU public procurement.

Nevertheless, each document has a different perception about what the added value can be depending on the position of the organisation issuing the document. The diverse range of services which public sector organisations deliver (such as health, transport, security, education and environmental preservation) creates multiple views which influence how objectives are formed because of the high number of stakeholders involved and the uncertainties of the modern world (Mulgan, 2009). Public organisations have strategies aimed to withstand public scrutiny, achieve public's satisfaction with goods and services and provide accountability for tax payers' money, alongside achieving competitive advantage (Mulgan, 2013). Hence, public organisations strategies are influenced by changing political ideologies which drives many of their actions. Also, these ideologies are influenced by what different individuals within public organisations view as public interest which influence their decisions towards depicting what public needs can be (Erridge, 2005). Chapter three drew on the literature to classify client organisation to understand them which included a review of the client being public and/or private.

1.2.2 Construction and Infrastructure Projects

Howes and Robinson (2005) argued that the term 'infrastructure' describes a wide spectrum of things which they viewed as the basic systems required for communities to function which they classified:

- Physical infrastructures which are civil engineering and building projects used to satisfy society's economic requirements, such as transportation, energy, water and telecommunication, and social requirements, such as healthcare, residential and educational services.
- Institutional infrastructures which are service-based such as the financial systems, security systems, the justice system and the healthcare system. Institutional infrastructures are not physical, yet physical entities can enhance their performance.

- Personal infrastructures which represent the personnel available to provide different services, such as police, doctors, bankers and soldiers.

In addition, they classified physical infrastructure into three classes: social, trade and economic (technical). Table 1 shows different physical outputs for each type and the different public services they provide.

Physical Infrastructure		
Social infrastructure	Trade infrastructure	Economic infrastructure
Education and culture: Schools, universities, religious facilities	Production facilities: Pharmaceuticals, technology, cars, food, textiles	Public utilities: Water and power supplies, communication, gas pipe lines
Health and social services: Hospitals, housing, clinics, civil services	Storage facilities: Food products, mail, construction material, cars, electronics	Public works: Roads, bridges, canals, dams, reservoirs
Leisure and recreation: Theatres, playgrounds, stadiums, public parks	Offices: Agencies, banks, accountant offices	Transportation: Railway, sea ports and airports
Public affairs: City halls, police and fire stations, government facilities	Vendors: Shopping malls, markets, restaurants, retailers	Sanitary: Waste disposal collection units, sewage,

Table 1 Different Types of Physical Infrastructure (Source: Howes & Robinson, 2005)

Accordingly, this research focuses on the construction projects of physical infrastructure facilities and impact of the procurement decisions of these projects and understand the effect of the spending to produce the artefact/asset from different stakeholders' perspectives. The research does not focus on how these physical infrastructures are used socially or economically or the benefits of using these artefacts by end users. The researcher came to this understanding after critically reviewing multiple perceptions about the procurement of physical infrastructure project. Firstly, construction of infrastructure projects being viewed as a tool to deliver socioeconomic benefits where through using them as a regulatory lever in both stagnant and prosperous economies where the increase in construction projects can stimulate a stagnated economy if required. Oppositely the reduction of investing in construction projects was viewed as a tool to slow a rapidly expanding economy. In this view, construction projects are perceived as an indicator of how national economies are performing (Chevin, 2014). This view was based on the construction outputs, in the British economy, which have a share of 7.4% of the Gross Domestic Product (GDP) and a volume of work which exceeds £100 billion pounds per year. It directly hires more than 2 million people and can generate around £2.84 of accumulative economic value for every £1 spent on construction. This supports view which encourages the British government to use public construction projects, as a catalyst to deal with the challenges facing society at both national and local levels because it is capital intensive (Preuss, 2009). Helm (2013) saw public construction projects as opportunities for public organisations to implement social policies because of the amount of investment these projects attract. Although these projects' funding mechanisms were shifting from being publicly funded to include more private investment through various schemes (such as Public Private Partnerships or Private Funding Initiatives), He argued that public organisations maintain their influence on such projects through concessions and regulations as these projects hold significant importance at

the national level because of the impact they have on economic performance and, subsequently, communities' wellbeing.

HM Treasury (2013) National Infrastructure Plan Report presented evidence on how the shortage of physical infrastructure investment has affected the UK's economy; for example, between the years 2000 and 2010 the GDP could have increased by 5% if the UK's infrastructure was on the same level as other international economies. Also, the cost of infrastructure was 78 billion pounds annually between 2000 and 2010 which is less than that which a standard developed country would invest. Likewise, an annual loss of 90 billion pounds can occur if the infrastructure levels do not match the average levels of other developed countries. The HM's Government (2013) Construction 2025 Industrial Strategy Report stated that attention should be given to the construction of infrastructure investment as an economic stimulant for the UK. The Infrastructures and Projects Authority (2016) National Infrastructure Delivery Plan 2016-2021 produced a pipeline of construction investment projects for the next five years as shown in Table 2 for different sectors and different types of construction and builds.

Sector	Number of Projects/Programs	Pipeline Value (£ Billion)
Communication	2/4	6
Energy	109/58	255.7
Flood Defence	6/23	4.1
Housing & Regeneration	N/A	9
Science & Research	25/7	5.5
Social Infrastructure	N/A	48.6
Transport	166/163	134.5
Waste	10/0	0.5
Water	1/28	19.3
Total	319/283	477.7

Table 2 Infrastructure Pipeline between 2016 and 2021 (The Infrastructures and Projects Authority, 2016)

Helm (2013) added that an increase in infrastructure demand in different sectors within a diverse range of construction projects offers a great opportunity to achieve outcomes with positive impacts on the national economy.

Oppositely, the argument above was disputed by different authors and reports which have argued that infrastructure projects will not create the needed impact because of the high cost it involves, the transformational qualities and the negative environmental impact. For example, projects such as High Speed 2 (HS2) and the cost of introducing new rail lines for a high-speed rail service was criticised for its high cost. Bolden and Harman (2013) argued that to achieve optimal return from investment in high speed rail projects, cities should be service sector focused, have pre-planned regeneration policies, create zones of third tier activities i.e. having offices, leisure centres, hotels, conference centres and high-quality housing. They added that redevelopment plans are also important to achieve these returns, making the success of such high cost projects in achieving socio-economic benefits conditional on other elements which might not be available. Larger cities which are prepared for such projects increase their

dominance over smaller unprepared cities in their regions which results in economic losses for the smaller cities and increases the economic gap between large and small cities.

The Eddington Report (2006) tasked by the government to investigate the viability of building a new high-speed rail service to connect London to the Northern cities such as Birmingham, Manchester and Leeds argued that economic returns of such a project were unlikely to match the volume of investment in some alternative projects. The report argued that some factors would contribute to the non-satisfying returns of investments for the HS2 project such as the compact economic geography of the UK making the challenge less of connectivity and distance and more of overloading the existing network and increased demand. The unpredictable costs of such high-speed technologies (which the report described as large projects having speculative aspects which rely on untested technology) might not generate attractive returns. The report concluded that such investment decisions required a detailed understanding of what they provide and whether or not the returns would outweigh the investment.

Furthermore, Atkins et al. (2017) argued that the UK government's decision making on infrastructure is not always suitable because some of the projects it has delivered did not provide the expected economic impacts which thus wastes public money on many occasions. Their report discussed the difficulty of reversing unsuitable investment decisions once the initial investment decisions have been made. This is because of the upfront capital which cannot be recuperated easily if an investment decision is unsuitable. As per the report, it was the short-term political benefits (and not the long-term economic benefits of investing in these projects) which might have led to investing in projects which would not achieve the expected returns. Hence, this research did not focus on political decisions based on any of the previous arguments, it focused on the procurement decisions in terms of how the spend should be used (and not why the spend should or should not be made). The next section discusses the different outcomes from public construction projects in different types of infrastructure facilities.

1.2.3 Construction Strategic Procurement Outcomes

The UK Government is viewed as a large client in the domestic construction market with the ability to influence the outcomes of its projects through procurement exercises to create value. Helm (2013) argued that constructing infrastructure projects can have long term influence on the national economy through because these projects can influence the performance of different services if the government choose to utilise public infrastructure projects as a Keynesian approach. Howes and Robinson (2005) and the HM Treasury report (2013) (see Table 3) show the different long and short-term impacts of public construction projects.

Short term impact of constructing infrastructure projects	Long term impact of constructing infrastructure projects
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Immediate income for supply chain employees during construction	Reduce poverty through job creation and sustained employment
Creates an economic multiplier for local economies	Offers better jobs to the already existing work force because of the competition created
Improves employment in the related sectors	Increases the capacity of the existing infrastructure giving room for further growth
Improves educational support programmes for the unemployed	Enhances innovation by offering more interaction between high numbers of companies from different sectors

Table 3 Short and Long-Term impacts of Infrastructure Projects (Source: HM Treasury, 2013; Howes & Robinson, 2005)

Ozkan, Ozkan and Gunduz (2011) recognised the role of the construction industry on national economies when it is used to stimulate economic growth. They added that the demand of goods and services provided through construction and the connections to other sectors encourage governments to designate a large share of public spending to construction. Berk and Bicen (2018) argued that construction employed skilled tradesmen, experienced machinery and equipment operators and skilled design and management experts who provided the leadership to a large portion of unskilled workers who are involved in many construction activities. In addition, construction is connected to more than 200 industries, with varying levels of engagement within multiple sectors (Preuss, 2009). Hence, strategic procurement of construction projects can provide long and short-term impact on the national economy (Lenferink, Tillema & Arts, 2013).

1.3 Research Rationale

The term ‘sustainable procurement’ emerged to describe the inclusion of social, environmental and economic considerations into procurement activities of public and private organisations. Since the mid-1990s sustainable procurement practices have become widespread, in Europe’s and North America’s public and private organisations’ business models (Brammer & Walker, 2011). Despite the rise of interest in sustainable procurement the literature showed a focus of research the environmental aspect of sustainability and the production of tools to enhance the application of environmental performance (Lund-Thomsen & Costa, 2011). McCrudden (2004) saw that the EU’s initial sustainable procurement agenda focused more on assessing environmental impact and reducing Greenhouse Gas emissions than on the social aspects of sustainable procurement. The research undertaken by Erridge and Hennigan (2012) indicated that the UK government had a focus on environmental outcomes but less on social outcomes, because of the difficulties and complications that social issues entailed when compared to environmental outcomes. Seurig and Müller (2008) gave an example of the increased focus on environmental research in sustainable procurement in their research where from 140 articles published about sustainable procurement, only 20 had social and ethical considerations as their focus. Oruezabala and Rico (2012) reviewed a sample of literature about sustainable procurement and indicated that the research which focused on the social element of public, and private, procurement was less than research focusing on the environmental element, with

environmental report being 75% of literature they examined and 25% of the sample focusing on the social element as their main subject

Despite the documents and initiatives across the EU promoting the inclusion of social element in sustainable procurement, it was a confusing topic which created debate among different stakeholders about what it was. Outcomes of construction projects such as employment, apprenticeships, training, workforce up skilling and community engagements are all outcomes which created value for different stakeholders and were interpreted by these stakeholders differently based on a diverse range of factors (Bratt et al., 2013). In addition, challenges such as the difficulty to select outcomes suitable for, the project circumstances and for community needs at same time. There are limited methodologies which can help project teams in their approach towards creating value through their construction projects' outcomes and attempting to quantify the value created by the project to justify procurement decisions which goes against the notion of value being a variable perception of stakeholders. Furthermore, there are complex societal challenges which are thought of as areas where public procurement approach and influence. These challenges which were thought of in the literature as areas which public procurement approach are stated below.

1. Poverty in the UK where 7.8% of people (4.6 million) are in persistent poverty (Office of National Statistics, 2015);
2. Unemployment, which reached 4.8% of the UK population in December 2016 (96,000 people fewer than December 2015), where 1.6 million are seeking and available for employment;
3. Full time employment where the workforce in December 2016 was divided into 23.35 million with fulltime jobs, compared to 8.55 million with part-time jobs;
4. Education and training where young people who are Not in Employment, Education and/or Training (NEET) accounted for 826,000 people in the first quarter of 2016 and this NEET-rate for UK 15-19-year-olds was below average when compared to OECD statistics (Brown, 2016).
5. Challenges facing the UK construction industry, such as:
 - A. The ageing working force and the unattractiveness of construction jobs to younger generations;
 - B. The high rate of redundancy in construction (Chevin, 2014);
 - C. The skill shortage created because the 2008 economic crisis resulted in the loss of 400,000 construction jobs which require the training and recruitment to replace.

Accordingly, there is a need to understand how and why construction projects' stakeholders have different perceptions about what social value can be and whether their perceptions influence the approach towards the construction projects. Because of the policies promoting social engagement with social challenges which are pursued by public organisations, it is necessary to understand different stakeholders' perceptions about what social value can be for

them because of their influence construction project decisions which can influence value creation. To clarify, Macfarlane and Cook (2002) indicated that, the UK public construction projects' objectives and vision began to include social considerations which could benefit from the improved perceptions of different stakeholders about what the social element can be. Furthermore, research about sustainable procurement was leaning towards the environmental agendas, up until recently, with less inclusion of the societal considerations (Erridge & Hennigan, 2012).

1.4 Research Problem and Questions

1.4.1 Research Problem

The research problem is the conflict between key stakeholders about utilising construction projects' outcomes which to create social values aligned with social agendas, despite the encouragement in public policies and government initiatives to create such values. This research evaluates what are the perceptions about hinderance to SV creation, which include unclear definitions of deliverables, the gap between strategic objectives and operational level techniques (implementation guidance) and, the conflicting results when assessing the impact of outcomes created through construction projects.

1.4.2 Research Questions

1. How is SV currently perceived in public construction projects?
2. How problematic is the SV situation in the context of the procurement of public construction project?
3. Who are the stakeholders influencing construction project decisions and SV context?
4. How can a new process influence client organisations and its actors' perceptions about SV and delivering the outcomes?

1.5 Research Aim and Objectives

1.5.1 Research Aim

This research aims to develop an understanding of the SV problematic situation in publicly procured construction projects in the UK context, from key stakeholders' perspectives, and to develop a process using soft systems' thinking to improve how SV is being viewed and agreed on by the key stakeholders taking into consideration the variety of stakeholders' and projects' contexts.

1.5.2 Research Objectives

The objectives which seek to achieve the research aim are:

1. To understand SV problematic situation and how construction projects procurement is used as a platform for SV creation.
2. To assess the suitability of a systems' approach in investigating construction procurement for SV problematic situation.

3. To understand the different perceptions of key stakeholders about SV in their construction projects' procurement.
4. To assist stakeholders in thinking about suitable outcomes of their construction projects to create value for their communities and reducing the gap of knowledge between policies and operations.

1.6 Research Methodology

The methodology for this study is discussed at length in Chapter 4; nevertheless, an overview is displayed in this section. The researcher chose an 'abductive research strategy', which is aligned with the development of mid-level theories. This research used a methodology with a system's perspective to investigate the social phenomenon in its natural environment and to include it in the investigation process. Accordingly, the research used a Soft System Methodology (SSM) approach which investigated the phenomenon, having a soft nature, in its natural habitat and developed a conceptual model which can improve the delivery of SV through construction projects. Accordingly, the research started with an in-depth review of the literature on SV, construction projects and their stakeholders, and systems methodologies which provided an understanding of the phenomenon under review in its natural habitat.

The research used an expert panel for the pilot study to formulate the case studies' propositions and examine the selection criteria. The case studies, chosen in the United Kingdom, were used to test propositions emerging from the pilot study and the literature review before that. Hence, the researcher built an understanding as to how SV outcomes are delivered and the factors which affect the successful delivery of them. The case study selection criteria were developed to support the analysis of both types of replication logic (literal and theoretical) as explained by Yin (2009). These case studies, as construction projects, provide a single unit of analysis for each case with interviews and document reviews as the main data collection methods. Furthermore, the Soft System Methodology was accommodated by the Generic Design and Construction Process Protocol (GDCPP) which is a tool developed based on hard systems thinking to assist in the formulation of an intervention tool after the development of a conceptual model by providing a structure to the model.

The research had an iteration process which consisted of three phases following Meredith's (1998) approach to create mid-level theories. The first iteration was applied during the literature review phase, where it started by developing a description of the current SV delivery methods, of the challenges faced, of the stakeholders of SV delivery and how a systems approach is suitable for this research. Additionally, an initial explanation was developed through the literature review and the very first propositions were examined, also through the literature review. The second iteration focused on an explanation of the SV phenomenon and why SV was at the state it was. This was implemented through the expert panels where initial propositions, developed during literature review, were also examined and updated. The third iteration was during the case studies where the focus was mainly on examining the propositions in four different case studies to develop theoretical and literal replication and on building a conceptual model based on these propositions to improve SV delivery. During these three iterations SSM and GDCPP were used to support the three stages by building rich pictures,

developing conceptual models, and providing structure for the activities of the delivery within both the expert panels and the case studies. Figure 1 outlines the different phases and the progression of the thesis.

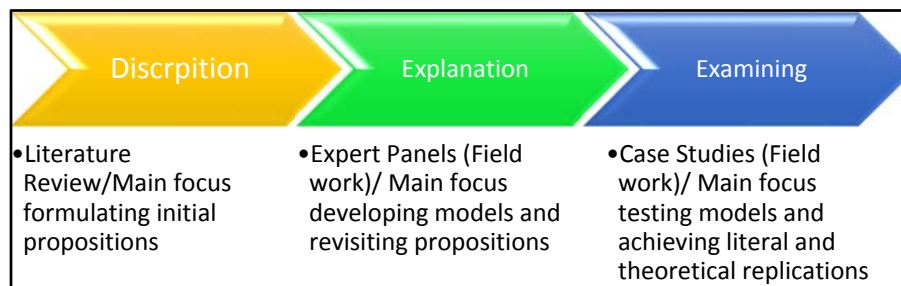


Figure 1 The Main Three Phases of the Research (Source: Meredith, 1998)

1.7 Research Structure

This research is divided into seven independent parts which are then categorised into nine chapters for ease of overall display.

1. Chapter one discusses the background of the research and its rationale. The research questions, objectives, aim, and a brief about the methodology is also included.
2. Chapter two initiates the literature review by reviewing the subject matter on SV. This chapter examines the literature about the origins of SV delivery in the UK procurement context, strategic procurement and construction projects, the diverse forms of outcomes and the challenges of creating SV.
3. Chapter three reviews SV in terms of being a problematic situations and what influence construction projects and stakeholder's perspectives about SV creation. Construction clients, key stakeholders and construction project's internal and external environment are examined to understand the situation.
4. Chapter four discusses the research philosophy and methodology used, coupled with the justifications which led to the related decisions. This chapter explains why SSM was chosen as the research methodology and why it was suitable for the SV situation.
5. Chapter five reviews the pilot study and examines the suitability of the research methodology, the propositions and the conceptual models via expert panels. This chapter discusses what GDCPP can add to SSM to serve SV as a social phenomenon.
6. Chapter six is the intra case analysis for main study (four case studies), chosen based on the selection criteria developed in Chapter five.
7. Chapter seven discuss the cross-case analysis, replication logic and the analytical generalisation of the four cases from the previous chapter.
8. Chapter eight is the discussion and conclusion of the research.

1.8 Chapter Summary

This chapter paved the way for the rest of this research and its sections.

Chapter 2 Strategic Procurement as Platform for Social Value

2.1 Chapter Introduction

The previous chapter introduced the research and gave an initial understanding about how social value (SV) was perceived from different perspectives in construction projects. This chapter provides an in-depth description of the contexts which this study is situated within. This research is positioned within the contexts of strategic procurement of infrastructure and the emergence of social value in procurement model. It is expected that at the end of this chapter a thorough understanding of the relationship between strategic procurement, the emergence of social element in business models and Social value in public procurement would be developed. To achieve the aim of this chapter it is structured as follows:

1. The historical context of the social element in business from the emergence of capitalism to the present-day sustainable development;
2. Strategic Procurement and the appropriateness of strategic procurement decisions to the client needs and capabilities;
3. Construction project's procurement role as a platform to promote social value and what does that mean in this research;
4. Construction projects' outcomes which are perceived by stakeholders as the outcomes creating what they depict as social value and the notion of measuring it;
5. Challenges to the creation of SV in construction projects' procurement.

2.2 The Emergence of Social Element in Business Models

One hundred and seventy years ago, the term 'capitalism', through Adam Smith's book "The Wealth of Nations", emerged as an economic ideology which argued that organisations create value when the price of goods and/or services they provide, in a free market, exceeds the cost of producing them resulting in the maximisation of revenue. To clarify, free markets could be argued as being amoral, because if there are profits, markets keep producing any type of product desired by customers, even if it is harmful and has negative consequences. Capitalism was viewed globally as the platform for growth and business success which depended on economic performance, financial success and profit maximisation. From the early 1990s to the economic crash of 2008, capitalism was viewed as the prevailing economic model for countries implementing free market economics across the globe where maximising profits and achieving market growth dominated national economies (Mulgan et al., 2007). Before the economic crisis Winch (2002) saw the UK as an Anglo-Saxon economy which focused on market value and minimized state regulations putting less regard towards worker protection and social issues viewing profit generation as the main factor influencing business models of private and public organisations.

However, since the 2008 economic crisis criticism of capitalism increased even though it was not challenged before the crisis because it was viewed as the most successful economic model. Macro-economic models of a smaller state and the application of austerity measures through budget cuts and no financial interventions by the government to reduce deficit and support markets in generating the needed supply and demand and avert recession was challenged with the Keynesian models. The Keynesian economic stimulus which promoted state intervention through government spending (utilising the aggregation of demand) and tax cuts as the way out of stagnated economies was viewed as a replacement to the classical model. Keynesian economists criticised the fundamental view of Andrew Smith's model that supply will create its own demand automatically making such a demand a taken for granted element of the model. This was opposed by arguing that an amount of money invested by the government would encourage households to consume more creating stimulus to the economy (Seidman, 2012).

The criticism of capitalism was depicted as the result of the emergence of global commercial empires which were considered greater than most nation-states being viewed as failing to fulfil society's needs and in some cases hindering societal benefits. This supported the argument for changing public and private organisations' business models. The inability to solve social and environmental problems fed into how classical economic models were criticised (Porter & Kramer, 2011). In addition, Loosemore (2015) and Mulgan (2013) argued that capitalist small state's welfare systems were challenged by the social and environmental complicated problems they faced because they lacked the resources to influence these problems. This influenced the issuance of policies to reduce commercial competitiveness and restore public trust in national economic models; a balance between laissez-faire markets and government interventions, which meant that governments intervened through their legislative power to yield more benefits from free market economies (Antonioni & Masaki Flynn, 2011).

This also, triggered change in business models of public and private organisation to improve how they were viewed by their consumers where companies started introducing different forms of self-regulations such as Corporate Social Responsibility which was initially depicted as non-compulsory initiatives. However, companies which introduced CSR to their business models, were thought to be thriving at the expense of their communities, making CSR ineffective and communities losing trust in such companies because they were pursuing short term financial success while neglecting their long-term influence (Mulgan et al., 2007). This failure influenced society's interpretation on how successful businesses performed where success was becoming more than just commercial outcomes where the involvement in community challenges was becoming more than a secondary activity (LePage, 2014). A shift in societies' expectations reshaped business models were viewed by their end users, where organisations' success was discussed against non-commercial criteria, exceeding 'traditional' economic performance and neglecting externalities (Elkington, 1999). Since the late 1990s, the UK government was trying to assess the impact of their public services' outcomes in methods other than their economic performance (Arvidson & Kara, 2013). Environmentalism and feminism movements with its followers and intellectual leaders influenced public consciousness with their ideas, about empowering the people to solve their problems instead of waiting for

intervening parties to do so, which was interpreted through new forms of government legislation (Mulgan et al., 2007).

The issuance of the Brundtland Report (1987) was viewed as the start to change in how business models were constructed where new models were built around delivering goods and services without affecting future generations' ability to deliver their own goods and services. Since that time, goods and services' delivery models, for public and private organisations, changed from only considering economic performance to including environmental preservation and social justice. Erridge and McIlroy (2002) supported this argument and conceptualised these non-commercial criteria of business success as public interest, environmental outputs and community benefits. Elkington (1999) stated that organisations needed to change their business models dramatically to produce sustainable outcomes (economic, environmental and social outcomes) and improve their performance against these sustainable objectives. Accordingly, this research agrees that government intervention, through the power of legislation and initiatives, was important to approach the influx of complicated communities' needs that the UK Anglo-Saxon economic model of the small state could not deal with. The diminishing financial capabilities of small state models could not cope with the increase in complexity and volume of challenges facing societies and since the issuance of the Brundtland report in 1987 it was clear that business models, which relies on Adam Smith's "invisible hand" idea, were no longer viable or acceptable for both public and private organisation. Hence, a balance between laissez-faire markets and government intervention is important because pure laissez-faire markets could not provide sound answers to growing social and environmental challenges. This research believes that public organisations can lead change and influence private organisations to follow in their footsteps which agrees with Mulgan and Elkington perceptions about taking capitalism forward through changing current business model to include social and environmental considerations as part of the business. John Maynard Keynes' argument of increased government intervention through utilising the aggregation of demand to do more than just delivering goods and service is aligned with what the views of this research.

2.2.1 Defining the Social Element in Business

In the late 1980s the collection of economic, environmental and social elements was introduced as businesses objectives making the social impacts a more familiar area of work. Understanding the impact of the social element was the least developed when compared to economic and environmental sustainability elements, because of how difficult its definition was. Value is subjective, therefore, both individuals and organisations have different views of what is of value for them. For example, if an organisation relocated to a small town, such a move might increase the prices of real estate in this town causing a percentage of the local population to view the impact of the organisation negatively. Nevertheless, the same move increase job creation for the local population who, as a result, would view the move as positive value added to their lives created by the move. Hence, value can be viewed oppositely by a single group of individuals.

Similarly, stakeholder groups within a single organisation might have different views for objective the organisation pursue according to their position in the organisation. Business units value a service they deal with differently based on whether they supply or demand this service

(Magis & Shinn, 2009). Accordingly, organisations pursue their social agendas according to their interpretations of social objectives and what they see fit (Wood & Leighton, 2010). Larsen (2009) argued that sustainability could mean different things for many people and that it should not be a doctrine which must be imposed to get satisfactory results. He added that there is no common language, agreement or understanding of what sustainability can be. Russel (2013) argued that it is easy to get caught up in the terminology and the conflict between different terms describing social outcomes and their impacts when these terms overlap (depending on what the outcomes being created are). As a result, a variety of terms emerged to cover business social elements and organisation response to the social requirements, because naming a single term that would cover the wide spectrum of social outcomes is especially challenging. From the wide spectrum of terms and definitions, four terms described how social elements were included in strategic procurement.

2.2.1.1 Social Sustainability

Social sustainability was defined by Magis and Shinn (2009) as the encompassing of social objectives in an organisation's business plan and day-to-day activities to deliver outcomes such as social support, youth development, social justice, sustainable communities and wellbeing. Meeting the basic human needs created value through offering healthy, skilled and viable communities and provided the developers and consumers for services and products which was the basis for the social sustainability element of businesses. Social sustainability had different meanings for different people and can be viewed from any perspective as a philosophy, a vision, an objective or a mandate to organisations or individuals. Social sustainability context and actions are linked to civil society which involves both human and material aspects (Larsen, 2009). Flourishing communities and social cohesion, from a sustainable point of view, is a partnership between public and private organisations, because private businesses have a social impact created by employing, purchasing and interacting with society to achieve these types of sustainable objectives. Products can lose their market share to competitors if the producers did not apply the moral and ethical codes of society, where businesses are expected to consider and track their social impacts to win work (Bebbington & Dillard, 2009).

2.2.1.2 Social Procurement

Social procurement is viewed as the public procurement exercise and contract awarding which produces outcomes that can be viewed by the public procuring clients as the values which is aligned with their social policy objectives. Because social procurement is viewed from public client organisations view, its construction is influenced by client organisations' social policies which promote social wellbeing and basic human needs. Accordingly, social procurement was viewed as an improvement from traditional procurement which award contracts based on the contractor's capabilities, track record and cost because of the socio-economic considerations involved in the procurement decision making. The term social procurement was used across different sectors and a variety of products and services using any form of procurement routes or purchasing strategy. The increase in engagement with social procurement reflected the

changing business models of public authorities, from a narrow cost consideration to a wider social and environmental consideration for their projects.

Public contemporary procurement followed the Competitive Neutrality concept which argued that a public client must provide fair opportunities to all bidders and award the contract to the most effective bidder. However, some clients blocked certain suppliers, who delivered non-financial benefits, (such as third sector organisations) from winning contracts because they did not consider these organisations' social impact when evaluating bids. Accordingly, social procurement emerged to take these social benefits into consideration when assessing bids for goods or services and would favour suppliers with higher social outcomes and encourage project participants to deliver social outcomes (Barraket & Weissman, 2009).

2.2.1.3 Community Benefits Clauses

'Community Benefits Clauses' was defined as the legal framework of including community and social benefits clauses in public contract agreements to guarantee the compliance of contractors and suppliers to the clients' social agendas. This approach emerged in the UK to reduce the influence of cost as the only factor considered when awarding public contracts and improve value for money for public clients. Clients must define community benefits clearly, embed them in the business case and include them in the market testing before the procurement process starts to successfully meet community expectations. Extra costs associated with community benefits must be calculated by the client and included in the budget of the project to yield the results which would satisfy what the client organisations see as beneficial to their communities (Macfarlane & Cook, 2002).

The community benefit clauses could have multiple interpretations because the views of the client organisations about these benefits are influenced by what the stakeholders at the receiving ends values. Hence, collaboration between the clients and these stakeholders to understand what these benefits impacts were before and after the contracts are completed. Because of conflicts between stakeholders in public procurement community benefit clauses was viewed as a method to reduce the complexity of public contracts and procurement regulations when public procurers pursue the creation of added value within the commercial procedures and provide leverage to do so. Community Benefits' practitioners aim to create lasting legacies for their public projects' investments in their local communities (Macfarlane & Cook, 2008).

2.2.1.4 Social Value

The term 'social value' was recognised in the UK after the issuance of the Public Services Social Value Act (2012) which defined SV as the values added by the outcomes of publicly procured projects which fulfil social needs promoted and defined by public clients through their projects (Westall, 2012). The Act encouraged public procurers, within the UK context, to deliver social, economic and environmental benefits through contracts that exceed the Official Journal of the European Union (OJEU) monetary threshold (The Cabinet Office, 2015)

Wood and Leighton (2010) and Russel (2013) indicated that SV can have multiple interpretations based on those who interprets it because the outcomes delivered by the public procurement create or add value with a subjective nature. Different stakeholders have varying

views on what the values added by certain outcomes can be, based on how these stakeholders interpret it. Accordingly, in the literature there are multiple definitions which covered different views of SV such as those given below:

1. In the UK Parliament (2012) Public Services (Social Value) Act SV was the maximisation of additional values through procurement outcomes produced when procuring certain goods and services where these outcomes exceed the delivered goods and services and their benefits. The Act aimed at creating value through public clients leading the process of procuring goods and services and encouraging their supply chains to deliver outcomes which they see as suitable in interpreting their view of SV;
2. Westall (2012) defined SV as the creation of positive changes through commercial organisational activities in local communities which create impacts that continue after the commercial activities are completed. He added that creating SV requires the knowledge of what is valued, which may vary across different stakeholders' priorities whereby these priorities require discussions and agreements to be established among different stakeholders.
3. McLaren (2011) saw SV as the value created by socially driven procurement outcomes with impacts that exceed the fiscal interpretations of value for money in the form of additional benefits to the community. His research focused on what was valued as important, how this value was delivered and how the value was assessed. He stressed that these values were not created by the public sector alone and that the private sector, either through collaboration with the public sector or independently, can create SV.
4. Russel (2013) defined SV as the non-fiscal values created through outcomes of the economic activities performed by certain organisations which are interpreted as values by the key stakeholders of the activities. SV from this perspective covered any value being created by organisations without having to attach a financial figure to assess the impact it created. This definition aims at reducing the obscurity that often occurs when an organisation deals with (or delivers) SV and includes SV in the business objectives of organisations easily.

Therefore, SV is what the key stakeholders of the procurement activities view as of value to them and their objectives. Outcomes being delivered through the procurement can create different values for different stakeholders. For example, a local authority can view youth employment as an outcome which would add value of reducing youth unemployment or the value of reducing anti-social behaviour within the local areas. At the same time the contractor, procured by the local authority, can view the youth employment outcome in the form of replacing aging workforce of the contractor by younger individuals or having a low-cost workforce.

2.3 Strategic Procurement

A strategy document is what sets an organisation apart from its peers; a strategy presents what is important to the organisation and provides the 'what' and not the 'why' or the destination and not the path. Articulating a strategy produces a unified vision for an organisation to utilise the skills and resources of its employees, its customers and its suppliers to achieve this vision.

Clarifying what an organisation wants to achieve and what its values are, provides an objective which the organisation works to achieve. Organisations have multiple strategies to clarify their visions on every business aspect, such as a social strategy, a commercial strategy, a human resource strategy and a procurement strategy, and organisations use these strategies collectively to achieve a unified vision (Lamming, 1999).

Accordingly, a procurement strategy provides an organisation's vision on the procurement of their goods or services through various methods to achieve its strategic goals and satisfy end users (Cox & Townsend, 1998). A strategic approach to procurement enables an organisation to choose the procurement route which delivers its vision according to certain circumstances (Cox 1999 & Christopher, 2011). Kraljic (1983) argued that organisations' strategic procurement creates added value to their outcomes (such as cost reduction, supply chain control and bargaining power) and reduces the complexities of the market place (such as new technologies, logistics' solutions, material substitutions and oligopolies' conditions). Through procurement strategies, a clear vision of what client organisations aim to achieve is offered to suppliers. Hence, suppliers with a clear understanding of their customer's strategy understand what they need to do to achieve the customer's objectives in an innovative way (Booth, 2010). Organisations with robust strategies which guide their procurement activities and their resource management, successfully achieve their strategic and operational objectives and their organisational vision. Whereas, an organisation without a procurement strategy, to structure how they approach the market, is unlikely to influence its suppliers' performance to achieve its vision. When procurement strategies are not clear, organisations' business units erode each other's effort by unintentionally developing strategic approaches which conflict with each other.

Developing a strategic approach to procurement requires an understanding of the organisation's boundaries, its resources, inputs and outputs and the surrounding environment, which is not easy. Therefore, procurement can be approached from a systems perspective where the systems boundaries, inputs, outputs and environment ease the process of understanding and managing the organisation as a system. Also, an organisation as a system, its departments as sub-systems, employees and suppliers as its environment without a strategy makes the value of the whole less than the total of the sum (Cox, 1999). Accordingly, strategic procurement is a client organisation's approach on procuring goods and services which achieves their visions and add value to their business. Lamming (1999) indicated that four factors led businesses to adopt strategic procurement approach and provided insights on how organisations can procure, at that time. Figure 2 shows the four factors, which are; increased client sophistication, emergence of new technologies, reducing time to market and proper resource management. These factors are discussed below:

1. Highly sophisticated client organisations require highly sophisticated products and services which the traditional procurement approaches cannot deliver;
2. Numerous new technologies available in the market means that client organisation procurement methods must change to enable them to choose technologies which suit them and enhance their competitiveness;

3. Complex competition between producers means that these producers need to reduce the product's time to market, because an early introduction to the market increases a product's revenue;
4. Limited resources often force organisations to change their resource management approach and reduce waste. This means that organisations must produce better products with fewer resources through innovative solutions, supported by the procurement approaches.

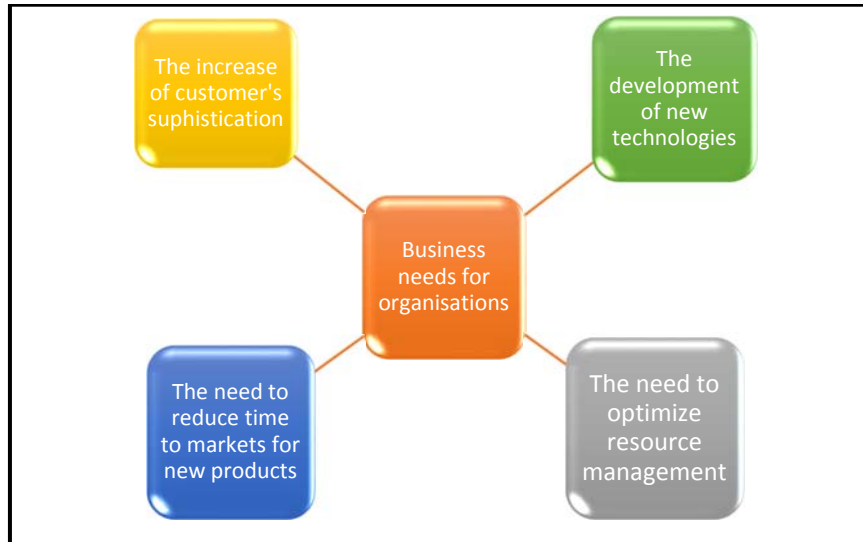


Figure 2 Factors encouraging the emergence of strategic procurement (Source: Lamming, 1999).

Construction clients have traditionally been influenced by these four factors which triggered change towards their approach to procurement processes and the adoption of strategic procurement (Cox & Thompson, 1997). Cox (1999) indicated that, in the early 1990s, the work undertaken to assess supply and demand regulations in the EU showed that there were grounds for improvement in the procurement, supply and demand activities. He added that procurement practices' improvements depended on the suitability of procurement choices for the client and the procured service or product and the client's knowledge of different procurement approaches to deliver their objectives. Finally, procurement options vary significantly between public and private client organisations. The next sections discuss strategic procurement appropriateness, public and private procurement differences and popular public procurement approaches.

2.3.1 Strategic Procurement Appropriateness

Cox (1999) argued that there is no 'one size fits all' approach in procuring because how appropriate the procurement approach to the client needs and capabilities decides how successful it is. From multiple procurement options, clients choose the option suitable for their circumstances to deliver their objectives (Christopher, 2011). Any relationship is a 'fit-for-purpose' relationship when it is chosen to suit certain circumstances and it fulfils its aim; whereas, if it were chosen based on previous success in different circumstances, it is not a fit-for-purpose relation (Cox & Thompson, 1997). Some academics opposed this argument and mistakenly believed that collaborative relations, throughout the project duration, are the only way to successful procurement despite how clear the term 'procurement appropriateness' was for procurers and other academics (Lamming, Cousins & Notman, 1996). The use of vertical

integration and outsourcing noncritical activities, which was widely criticised in the early 1990s, can be acceptable based on the circumstances and strategic goals of the procuring organisation (Cox, 1999).

Hence, strategic procurement can be achieved by making suitable decisions throughout the different stages of a project delivery from building the business case, design, production, handing over and operation which enables client organisations to achieve their strategic objectives and add value to their activities. In pursuing strategic procurement organisations must be proactive in conceptualising and choosing suitable interventions to achieve their strategic objectives successfully and should avoid having a reactive approach to decisions made by their counterparts (Abramson & Harris III, 2003; Cox, 1999).

Emmett and Crocker (2008) discussed centralised and decentralised procurement approaches, where centralised, aggregates clients' demand to supply goods and services to create economies of scales, avoid competitiveness, eliminate short term supplier relations, develop fewer large orders, centralise inventory controls and deal with procurement as a key business process. Centralised is suitable for goods and service with strategic importance linked with large investments. On the other hand, decentralized procurement is suitable for day-to-day products or service relying on suppliers with local experience, employing local workers, providing clearer responsibility for local management, and having close contacts with multiple departments in the organisation. The decisions of clients are influenced by changes in circumstances, complexity levels and global and domestic economic uncertainties; therefore, decision-making must consider these variables to achieve successful purchasing activities and create added value (Cox & Thompson, 1997). Two factors were perceived to affect client organisations' strategic procurement approach which are:

1. The strategic importance of procured goods or service which is decided by the value added to the purchaser, the profitability increase and the total cost of what is procured;
2. The complexity level of the supply market of goods or services which is decided by the availability of materials, technological pace, market entrance hurdles, the purchase cost and oligopoly circumstances.

The purchasing portfolio model developed by Kraljic (1983) argued that the complexity and uncertainty levels of what is being procured influence the procurement approach adopted by client organisations. For example, mitigating supply interruption risks is necessary for highly complex and highly uncertain products to measure the impact and diversify suppliers. In addition, long term contracts reduce the lack of consistency in the production of scarce material; whereas, aggregating demand of a product reduces supply complexity through bargaining power. Finally, collaboration between purchasers proved important because the ability to leverage the market is low if they purchase separately. Figure 3 shows Kraljic's purchasing model which classifies procurement approaches based on the supply and procurement complexity level. The matrix shows four types of classifications which require distinctive procurement approaches, where high supply and high importance require a strategic level intervention at the extreme side of the matrix, whereas low complexity and low supply

importance is considered as non-critical items, made available from multiple suppliers and are dealt with on the business unit level with strategic level intervention.

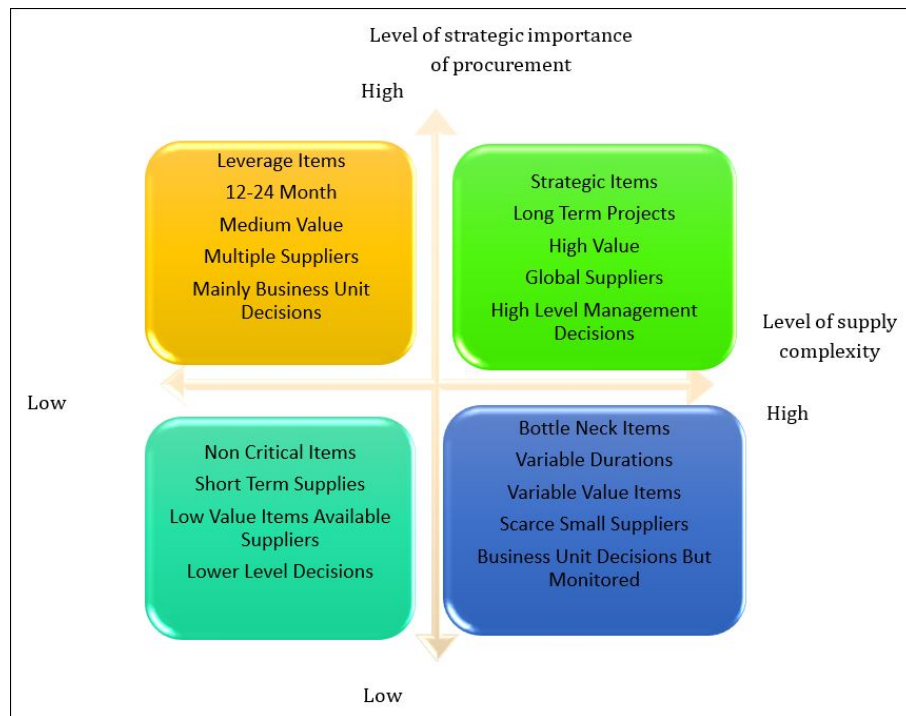


Figure 3 Supply and Purchasing Complexity Matrix (Source: Kraljic, 1983)

Emmet and Crocker (2008) classified construction projects as highly complex because it incorporates highly uncertain activities based on it being capital intensive. Hence, construction projects fall in the category of strategic items of supply; however, even within the sector itself different types and artefacts of construction products might vary within the portfolio model depending on market circumstances. For example, a nuclear construction product might fall in the category of being significantly critical where contractors are in short supply, whereas housing project contractors are available nationally. In conclusion, what drives supply is the demand strategy formulated by clients whereby they trigger supply processes influencing the change of the term supply chains to demand chains because how client organisations align their business drivers with their procurement processes influence how the supply side is structured (Christopher, 2011).

2.3.2 The Difference Public and Private Strategic Procurement

Emmett and Crocker (2008) indicated that business drivers differentiate between private and public procurement where private organisations have maximising profit as their main driver whereas, public clients have maximising value for the wider population, achieving transparency and public accountability as their main drivers. Organisations procure to achieve two sets of goals, but their level of commitment towards these two goals change according to them being public or private clients. Firstly, commercial goals pursued, to ensure that procurement activities fulfil the economic and efficiency requirements of both public and private clients. Public and private clients aim to achieve economic efficiency and quality improvement through reduced costs, competitive tendering, market testing and outsourcing. Private clients' commercial goals are embedded in their business models where maximising

profits is their ultimate objective. However, public clients' commercial goals aim to control costs and improve efficiency but might not pursue them in favour of expanding expenditure to satisfy a social need or make political gains.

Secondly, there are non-commercial goals, which are more likely public organisation related where they are classified into (A) regulatory goals to ensure procurement processes follow procurement rules and regulations and fulfil public accountability requirements. In regulatory goals public procurement must comply with the EU rules and regulations, offer fair and open competition for companies from all member states and achieve value for money for taxpayers. Regulatory goals do not apply to private clients because as clients in a free market they have the freedom to choose any procurement route without being compliant to public procurement rules or regulations. (B) Socio-economic goals where public procurement is used to support wider governmental policies, improve community wellbeing and increase social benefits. These goals were always linked to smaller firms and environmental policies (Erridge, 2007; Thai, 2001).

Erridge and Hennigan (2012) indicated that a social agenda/policy to overcome historical problems of religious discrimination and long-term unemployment in Northern Ireland influenced the procurement strategy developed by the government. They discussed another public policy, to support SMEs in Northern Ireland, which the government promoted by dividing contracts to suit smaller organisations. Erridge and McIlroy (2002) stated that public clients cannot consider achieving commercial goals only pursuing these goals encourage public clients to seize opportunities, increase their commercial benefits and neglect public interest in delivering their projects. In addition, public clients' policies are designed to balance between commercial and non-commercial goals. Finally, the commercial goals do not distinguish between individuals concerned with personal achievements and societal needs, which are the base to a tolerable and decent human life and demanded by all public clients. Hence, public procurement cannot be solely driven by market and shareholder values but should consider a broader social dimension. In contrast, it is acceptable for private sector clients to adopt commercial goals and market models because of their business models which pay less attention to socio-economic plans.

2.4 Social Value and Construction Projects' Procurement

2.4.1 Construction, Public Policy and Procurement Route

It was viewed by many authors that construction projects' procurement can create SV through changing how public projects are procured (Binks, 2006; McFarlane & Cook, 2002). The use of public procurement in driving social agendas was discussed in different publications where the topic of procuring for social outcomes to fulfil social policies was attracting attention (Arrowsmith, 2010; McCrudden, 2004). The issuance of the public services Social Value Act was not sector or industry related which meant that client organisations, and supply chain members, from all sectors are encouraged to use their procurement to create added value (SV) for their local communities (Awuzie & McDermott, 2016). Those in favour of the SV Act

argued that the Act aimed at reengineering public procurement and encouraging local suppliers to improve their participation in public construction projects (Cartigny & Lord, 2017). Cartigny and Lord (2017) indicated that the application of the public service Social Value Act was intended to relate to public construction projects with its social responsibilities because of construction's significant impact with its £112.6 billion annual bill. McCrudden (2004) argued that modern public procurement methods were developed in parallel with the UK's welfare state whereby procurement was used to support the objectives of the latter. Macfarlane and Cook (2002) stated that local authorities in England and Wales were encouraged to use construction projects' procurement and their community leadership role to maximise outcomes which support their social agendas. McCrudden (2004) argued that there is a growing interest in the social elements of procurement and debates about combining social and environmental elements to produce sustainable procurement are taking place.

Petersen and Kadefors (2016) implied that, in Sweden, many municipalities and construction clients understood the opportunities they had by combining their construction procurement with employment creation opportunities to deal with the social challenges of segregation and high unemployment rates among immigrants. This was a result of the social element of sustainability gaining more attention than the environmental element in construction in the last few years because of the segregation problem in Sweden where there are higher unemployment rates among immigrants than the domestic population. They added that construction procurement was beginning to focus on social sustainability because the construction procurement approach was changing from the popular triad of time, cost and quality to address environmental and social issues.

Clarifying how social policies are understood by procuring organisations and how relevant their procurement decisions are to such policies can support wider government objectives (Erridge, 2007; McCrudden, 2004). Arrowsmith (2010) indicated that there are two types of policies: firstly, regulatory policies which ensure compliance with general and legal requirements. Regulatory policies can be implemented in a direct fashion through contractual choices because they prevent governments from undertaking unlawful actions, provide a fair treatment or a level playing field for all contractors, and prevent public money from being used in illegal activities. Secondly, there are what she called horizontal policies which are policies that go beyond the legal requirements and aim at achieving extra benefits for the community such as socio-economic policies, fair payment policies, targeting certain groups, dealing with specific situations or having a generic positive impact on the community. McCrudden (2004) implied that socio-economic policies (such as fair labour conditions, fair wages and unemployment) were frequently linked to public procurement because of the ability to assign resources to achieve such objectives. These policies are perceived as a form of regulation in public procurement and, in that manner, can be used to regulate government contractors. Arrowsmith (2010) implied that there are two reasons to use public procurement power as a tool for regulation: firstly, horizontal policies can be used to develop examples and promote wider acceptance of changes which can reduce public criticism. Secondly, procurement can be an effective instrument compared to other options that a government has (such as sanctions) whereby allocating resources to pursue such a policy is justifiable.

Nevertheless, these horizontal policies which go beyond the regulatory requirements can be confusing when implemented in public procurement activities for procuring clients and this confusion can have legal implications on procurement exercises. To clarify, a policy which promotes procuring from certain ethnic minorities can exclude organisations who are not owned by these ethnic minorities but are still compliant with regulatory policies which challenges the notion of having a level playing field and might contradict constitutional rights of equality. McCrudden (2004) explained that the Davis-Bacon Act was a USA Congress act established as part of policies to protect local construction workforces and suppliers from immigrant workforces and outside suppliers by requiring contractors to pay the common local wage to the workforce even if the contractors hired immigrant workers who received less wages than locals. Those in favour of the Act argued that awarding contracts to immigrant hiring contractors would depress local wages because immigrants received less wages than locals. However, it was explained that the beneficiaries of the Act were the law makers and that it blocked competitive advantages for the protection of local contractors. This leads to another challenge in understanding such policies on constitutional issues where some policies were developed without any legislative basis which required actions outside of the contract to be carried out by the contractors which are, in some cases, unclear on awarding contracts based on actions and not being based on detailed contract requirements. Hence, when implementing socio-economic policies procuring organisations are very cautious about, and at times reluctant concerning certain decisions to maintain compliance with the constitution and legal issues.

Furthermore, Awuzie and McDermott (2016) discussed how the procurement route of infrastructure projects' outcomes can create social value for client organisations. Their research indicated that the selected procurement route can influence the types of tangible outcomes delivered through the procurement of infrastructure projects which can create value that serves the client perspective's social agendas. The appropriateness of the procurement route had a significant impact on the delivery of client social objectives. Thai (2001) claimed that to deliver socio-economic benefits procuring organisations should lead projects' delivery by selecting the suitable procurement route because of the significant influence the route has on the outcomes of the projects. Procuring organisations should align their contracting procurement routes with their strategic objectives to create outcomes which create what they perceive as value whereby this procurement route should also achieve other objectives such as cost duration, end user satisfaction, and other sustainability objectives.

In one of their cases Awuzie and McDermott (2016) argued that the procurement route selected, which was a regional construction framework, enabled good communication between the client and the supply chain whereby the client could directly communicate with tier two suppliers and understand how to recruit local suppliers without compromising equal opportunities. In another case it was argued that the procurement vehicle used by the client organisation to deliver their projects offered a longer-term relation with suppliers which improved how suppliers understood the client requirements and what was of value to them. It was clear that procurement routes are not the answers to SV enablers, but they have a significant role to play.

2.4.2 Procuring Organisations and Social Value

It has been argued that the outcomes created through the procurement of public construction projects can create social value from the perspective of client organisations because contractors tend to comply with the requirements put in place by the procuring organisations (Briscoe et al., 2004; Cheng et al., 2008). Erridge (2007) indicated that on local levels across regional procuring agencies construction public procurement has become a strategic tool for pursuing social policies within the local economy which exceeds fulfilling the traditional ethos of transparency and fairness. Certain elements of a client organisation influenced how they approached the procurement of construction projects such as their size, portfolio, experience, resources and management competency and the level of commitment these client organisations had to engage in social value within their construction procurement influence on projects' outcomes and their level of satisfaction. (Awuzie, Farag & McDermott, 2018; Lim & Ling, 2002)

Cartigny and Lord (2017) claimed that the social value varies from one client to another based on these clients' construction context and their ability to add conditions and criteria to their procurement process. They added that clients can target local individuals and communities to deliver soft nature outcomes to form a diverse range of solutions whereby individuals can receive training and apprenticeship programmes and communities can benefit from the community facilities and consultations, but this depends on the suitability of such methods to client organisations. Awuzie, Farag and McDermott (2018) argued that construction procurement frameworks evolved to support the implementation of socio-economic policies and were established as a response to the central government initiative of improving public procurement efficiencies in construction. They indicated that these frameworks offered higher flexibility for different types of client and accommodate how they depict their social values to be through construction project procurement. It was discussed following a survey that there were mixed feedbacks from clients and contractors about the level of their satisfaction concerning the soft natured outcomes of their construction procurement. These mixed feedbacks were influenced by the construction client organisations' utilisation of the framework capabilities because clients engaged with the procurement vehicle influenced the quality and quantity of outcomes added through their projects.

Despite the frequent application of social requirements being used in the construction sector, construction clients are not promoting social value in a strong manner which is why the construction sector is struggling to integrate social challenges in their procurement processes (Petersen & Kadefors, 2016). Macfarlane and Cook (2002) explained that a small number of local authorities utilise their construction projects to promote such agendas. They implied that the reason for this limited number of applicants was because local authorities struggle to apply innovative procurement approaches that support their social objectives and what they would perceive as social value.

2.4.3 Collaboration between Public Clients and Private Contractors

Collaboration to create social value was viewed as a response to the reduced welfare budgets and the failure of traditional public-sector interventions to deal with social challenges due to the growing complex nature of such social challenges which requires collaboration between

public and private sector organisations to solve them. Barraket and Loosemore (2018) indicated that government agencies, community organisations and the private sector should work together to create value that would fulfil a community's social needs. They added that the take-up of new social and environmental considerations for construction procurement other than the traditional trio of time, cost and quality has been slow in public projects but that it was making progress with the clients and the suppliers which indicated the engagement from both public and private sector organisations in SV creation. Cross-sector collaboration in public procurement can support the development of the norms and networks which influence the collective actions of stakeholders for mutual benefits. These norms can create a sense of belonging for the individuals with the shared objectives. The benefits of collaboration between both types of organisations was the improved exchange of information between clients and suppliers, building trust and creating a common language between them. The increased interactions between individuals under shared objectives can change the perceptions of individuals to intervene for the common good and solve common problems (Erridge & Greer, 2002).

The collaboration between client and private supply chains was different from the traditional arms-length relations in terms of having: common cultures, a different leadership structure, collective decision-making, trust in the relationships, competent communications' methods, a suitable flow of information and the development of a common language between these organisations. Awuzie and McDermott (2016) added that the client organisation communication with the stakeholders had an influence on the delivery of construction projects' outcomes where it improved the understanding of stakeholders about what the client organisation aims to achieve from the client perspective. Embedding collaborative activities linked to the creation of social value within the project operations, supply chain decisions, customer management and operational interactions were necessary to create outcomes that resonate with the social objectives of the project (Loosemore, 2015). Petersen and Kadefors (2016) argued that using social enterprises which are organisations with financial and sustainable goals as their core objectives in supply chains was a way of delivering outcomes with a soft nature. Loosemore (2015) argued that because social enterprises had different business models compared to traditional subcontractors, some main contractors and clients were sceptical about hiring because they could understand traditional business models more.

Loosemore and Higgon (2015) argued that social enterprises face a variety of barriers to entry in the construction sector in many countries including the UK and Australia which indicates that construction projects' key stakeholders might be sceptical about how to include social elements in their projects. formal and in formal barriers. They argued that the effective entry of such new types of enterprises would require cross-sectoral collaboration between construction clients and the main contractors. Despite the slow integration of social enterprises wherein clients and main contractors struggle to understand their business model, their existence in construction projects indicates that the social element of construction procurement is changing because these organisations provide support to disabled groups, ethnic minorities, charities and local businesses.

Despite the benefits of cross-sectoral collaboration, there are no guarantees that the interaction between individuals or organisations from both sectors will support the collaboration as it depends on the quality of the interactions between public and private sector representatives. Bad communications or misunderstandings between public clients and private suppliers can have a negative impact on the performance of the project and SV perceptions. In addition, established norms and expectations within a social network of individuals can be a barrier for non-network members. For example, public organisations with the same norms of behaviours can be a barrier to private contractors who do not have the same norms. Collaboration in strategic procurement between the private and public sector can be challenging because of the liberal private sector model and the public model which is controlled by rules and regulations, being risk averse and resistant to change. The perception of EU public procurement directives by suppliers as being rigid and bureaucratic is equally viewed by public organisations as the way to provide a level playing field for all suppliers. This also provides public procurement staff members with a hesitation towards new innovative procurement approaches and hinders close supplier relationships (Erridge, 2007). Petersen and Kadefors (2016) concluded, from their case study, that a lack of inclusion of social requirements in construction procurement was due to the client organisations' short-term perspectives and bureaucratic challenges.

Accordingly, Barraket and Loosemore (2018) concluded from their research that collaboration between clients and suppliers to create social value varies significantly based on the organisations' size, supply chain position and economic circumstances. They added that relationships between construction clients and supply chains had a long way to go to create high levels of trust, competent communication methods and shared objectives because of the historical nature of the relations between clients and suppliers being confrontational and having been institutionalised for years. To clarify, construction supply chains engaging in social value creation was less effective downstream in the supply chain where the collaborations between clients and the main contractor were more effective than between the main contractors and the lower tier suppliers. There was no will to break the old institutionalised practices of demand and supply management to create social value. This shows that despite social policies being promoted, the informal existing practices and norms undermine the intent to utilise these policies. Finally, strategic procurement approaches which promoted long term relations between client organisations and suppliers were criticised because it was not always suitable for the economic circumstances which would put client organisations under political pressure to change their approach towards short term arm's length relations which can be suitable for specific certain economic situations (Murray, 2009).

2.4.4 Construction Procurement Outcomes and values

Petersen and Kadefors (2016) argued that a range of issues are being addressed by construction procurement and used the term 'social value' as an umbrella term which covers issues such as health and safety, buying local, employing SMEs, buying from women and minorities' businesses and employment creation for disadvantaged groups (such as ethnic minorities, ex-convicts and long term unemployed groups). The high demand by construction clients and the high unemployment rates among immigrants created new drivers for social and employment procurement requirements in construction projects. It was indicated that the benefit of having

the creation of value attached to public procurement is the encouragement of public procurement organisations to think about socio-economic policies and how to deliver them. Also, the concept of value can be useful as requirements which can help in assessing public procurement performance because it focuses on societal outcomes and internal outcomes. Creating value through public procurement enables procuring organisations to utilise techniques to understand the public preferences (Erridge & McIlroy, 2002). Social procurement requirements have implications on the demand and supply side; on the demand side using soft non-price related criteria becomes more complex to evaluate than the traditional criteria of cost, time and quality. Some construction clients who did not include softer requirements in their procurement indicated that soft requirements are irrelevant for their projects and expressed insecurity about managing them because of the uncertainty around them and the impact they might have on cost and quality. Oppositely, clients who included social requirements in their procurement emphasised that such requirements enabled them to engage in fulfilling their organisational, local and national social outcomes (Petersen & Kadefors, 2016). The nature of value being delivered by public procurement is contested by individuals, organisations, politicians and parties making the ability to understand to what extent a policy can be pursued a challenge. Conflict can be linked back to the individuals who would choose the maximisation of economic opportunities and personal riches which can conflict with the collective indication of public interest. One of the obstacles with creating value through public procurement is that the concept is dominated by private market-based language making value a contested issue and difficult to track (Erridge, 2004). The procurement and delivery of infrastructure projects was viewed as the method by which values that would fulfil the social agendas of client organisations can be achieved. However, despite certain clients claiming that their infrastructure projects were able to create values which fulfil their social agendas other clients delivering infrastructure projects were challenged in capturing the values which the outcomes of their projects were able to create. This challenge triggered the need for investigating the delivery of infrastructure projects from a social value creation point of view specifically the contracting strategy of such projects because of its influence over the relations between different stakeholders of infrastructure projects (Awuzie & McDermott, 2016).

2.4.5 Planning and Life Cycle Engagement of Social Value

Valdes-Vasquez and Klotz (2013) argued that including social consideration in the construction projects' life cycle would support social sustainable development where considerations should exceed what is being delivered to the end user and include the local community and workforce. They defined social sustainability as the engagement of employees, client organisations, local communities and suppliers to meet the needs of the community which reflects the diverse interpretations of construction project stakeholders about the social element. CSR in construction projects focuses on meeting the stakeholders' needs affected by the operation which is a wider approach that might include environmental considerations.

During the planning and design decisions considerations of the community involvement in the form of public hearings are carried out by governmental agencies to understand the impact of the project on the users and where they live, work and engage in cultural activities. Social elements such as the influence of the temporary activities of the production which includes the

workforce and suppliers should be considered in the life cycle analysis during the design and planning phases. The design phase currently includes the impact of the finished facility on different groups such as the elderly or disabled which are considered as social sustainability considerations to improve the decision-making processes of the project (Benoit & Mazijn, 2009). Valdes-Vasquez and Klotz (2013)'s research approached social sustainability from an environmental perspective and they presented the social sustainability that needs to be considered during the design and planning stages within four areas:

- Public constituencies in the governmental decisions;
- Organisational accountability for all stakeholders affected by the operations;
- Safety through design to eliminate potential safety hazards during the design stage;
- Improving the design team decision-making process and the designed use of the project by end users.

They concluded that early design engagement with social sustainability improves neighbourhood engagement and assists decision makers in understanding and anticipating local needs in a timely manner. They added that the early planning of team formation offers enough time to name the roles suitable for the project and recruit suitable individuals which have an impact on the social sustainability of the project. Despite indicating that social sustainability considerations are taken into the life cycle planning of construction projects it was the environmental considerations which were dominant. Magis and Shinn (2008) implied that social sustainability includes more than environmental considerations and includes human and community well-being, social justice and equality which are deeper than the environmental elements. Socially sustainable development requires constant supervision and improving moral and ethical codes.

2.4.6 Social Value in this Research

Based on the review of SV in the construction procurement context and understand what SV instils in this research context, a differentiation between construction projects' procurement outputs, outcomes and impacts is discussed below:

- The outputs of a construction project fulfil the primary objectives of a project creating its direct results; these outputs could be the physical entity, the direct employment during the construction phase or the operational employment. These outputs are inputs being transformed through a wide spectrum of processes; at the one end are construction processes where the outputs are buildings being procured and constructed (for example, a school building). At the opposite end is the employment process, where the input is the construction workforce and the output are an employed population (for example, joiners to build the school). Accordingly, construction outputs, such as constructing a facility and employing construction supply chains, have a short-term duration (the construction duration) when compared to the operational duration.
- Outcomes are the changes in people's lives, in the communities or in the surrounding context resulting from the implemented activities. To clarify, outcomes are the production of softer values through the project activities which assist in solving a predefined problem

in a certain context, such as improving employability in local areas. These outcomes are predefined (targeted) and require preplanning to implement and capture impact. Outcomes have a softer nature when compared with outputs of a project making it challenging to track impacts. In a construction project, outcomes have the same short duration as the construction activities and outputs. Clients pursuing SV measure the magnitude of the outcomes to assess the delivery process success level.

- Impacts are the long-term changes achieved through the accumulative contributions of outcomes, which are measured against the achievement of social policy objectives. Impacts affect a wider range of stakeholders when compared to outcomes which affect clusters of stakeholders related to construction. Examples of impacts may be achieving a policy objective of reducing unemployment in a specific area through the upskilling of workers making them more employable or contributing to the achievement of economic regeneration in certain areas through the accumulation of purchasing from local suppliers (McLaren, 2012; Russell, 2013; Westall, 2012; Wood & Leighton, 2010). Figure 4 shows the differences between outputs, outcomes and impacts.

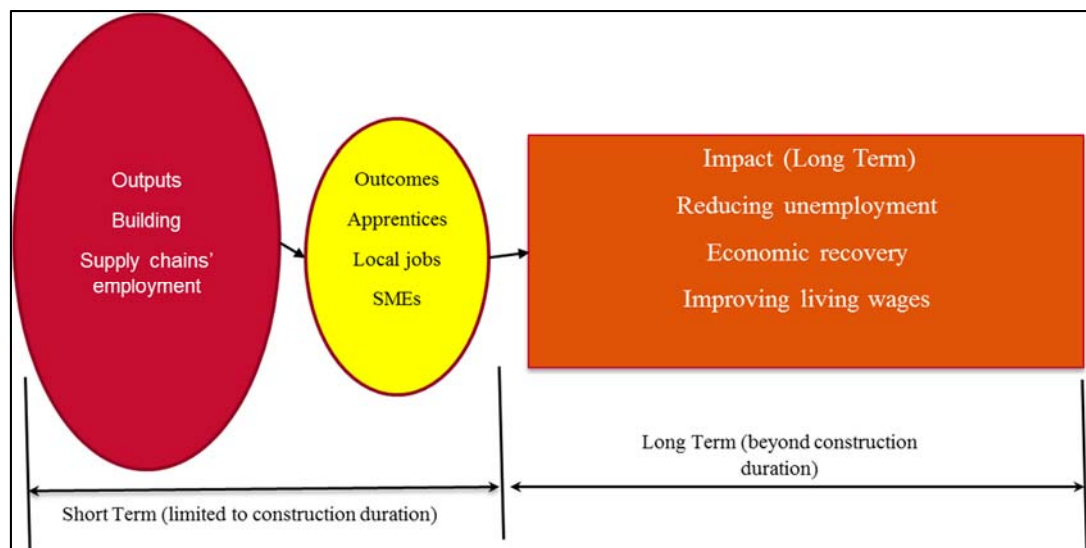


Figure 4 Difference between Public Project Consequences

Accordingly, this research defines SV a social construct of stakeholder realised through the soft outcomes associated with activities and process of procuring construction projects or programmes which improve communities' and individuals' wellbeing and leave a positive impact (legacy) which exceed that initial duration.

2.5 *Constructions Procurement Outcomes with Social Nature*

In the UK, a diverse range of outcomes with social nature are delivered through construction projects to implement certain social strategies where these strategies are transformed into the requirements developed by public clients' procurement teams. Macfarlane (2014) investigated poverty reduction through public procurement which encouraged public clients to deliver targeted recruitment programmes through their projects. Cabras and Mulvey (2012) examined economic regeneration policies which led clients to deliver outcomes in the form of local

purchasing. Policies such as social and ethnic inclusion were implemented through targeting minorities for employment and providing training opportunities by mandating apprenticeships' programmes. Despite the diverse range of social policies, it is important to understand that outcomes with soft nature overlap, because, firstly, achieving policy objectives requires a diverse range of outcomes and cannot be achieved through a single type. Secondly, by default, soft outcomes are intertwined where a single type creates other outcomes indirectly (Warner, 2011). For example, targeted recruitment and employment can overlap with training programmes, local purchasing can lead to employment or developing apprenticeships programmes by local suppliers. Also, employment, training and targeted recruitment can boost local purchase through workforce expenditures. Hence, there are no strict boundaries between different types of SV outcomes; however, three main types of outcomes appear to be associated with construction projects.

Producing 'local' outcomes was important to client organisations where these outcomes target certain geographic or administrative areas where the construction project takes place. Whether the outcomes were employment, training, apprenticeships or subcontracting, being 'local' was important and construction projects provided opportunities for local populations to earn money through employment, local businesses, and the knowledge improvement through training and education. In construction, local content included local enterprises, labour and training within planning, design and construction. Public clients, especially local authorities, were interested in local content because of the immediate benefits it offers to their local populations (Wells & Hawkins, 2008). Outcomes with soft nature investigated in social value literature are discussed below.

2.5.1 Local (Purchasing) Expenditure Strategies

Targeted local purchasing a construction procurement outcome is a form of creating value for the local communities because SMEs hire 85% of the construction sector's workforce and account for 80% of construction work, where 4 out of every 10-people working in the industry are self-employed. Accordingly, SMEs' ability to win work can positively affect the economic status of both themselves and their workforce; hence, public projects provide most of the construction work in the UK (Chevin, 2014). The Federation of Small Businesses (FSB) (2012) survey reported that local authorities have an average of £185 billion to spend each year, which they prefer to spend locally to maximise internal revenue. Public clients' awareness about local spend and its direct relation to economic growth improved because budget cuts following the financial crisis of 2008 forced procurers to think carefully about utilising budgets locally. Local purchasing requires planning and analysing information about market capabilities to develop local purchasing strategies, which are a set of rules designed to promote purchase services, goods and personnel from local suppliers by the client organisation. Local purchasing strategies can include apprenticeship and training programmes outcomes and economic regeneration, which the clients could influence suppliers into delivering. Esteves, Coyne and Moreno (2013) argued that local purchasing in Australia's oil and gas promoted local wealth especially in the areas which are considered deprived and lack the commercial attractiveness.

The word 'local', is defined differently from one organisation to another based on the organisation's business and circumstances, for example, the City of London conceptualised

their local areas as the boroughs of Camden, Islington, Newham, Hackney, Lambeth, Newham and Southwark, which are deprived areas (City of London, 2008) whereas Sellafield, the nuclear client, conceptualised their local areas as the areas served by the Cumbria council only. In addition, Warner (2011) stated that there are local content regulations in public-sector organisations, such as mining and energy ministries, and domestic and foreign investors who are responsible for developing policies to improve engagement with local content. The construction works within the vicinity of the Sellafield nuclear site, located in a rural area, was important to local supply chains because of the long construction duration (up to ten years) for the capital-intensive programmes. The cycles of expenditure in local markets have high retention to investment creating a local economic drive towards better performance (Cabras & Mulvey, 2012).

Buying locally offers a diverse range of benefits for client organisations, such as, firstly, providing better competition and preventing oligopolies because of the higher numbers of local suppliers bidding to win the work, which in turn reduces construction costs during and after construction. Even if local businesses do not win, the increased number of bidders improves the quality levels of service or goods provided, whereas, awarding work to local suppliers reduces the project's overall costs of materials and personnel transportation. Secondly, the shorter travel distances for materials and personnel from their origin points to the project reduce the amount of carbon emissions. Also, shorter transportation uses less material on packaging which is necessary for longer distances. Finally, local purchasing increases local populations' acceptance of construction projects because of the positive economic impacts it creates (City of London, 2008).

Local clients should balance between their objectives and what the local market capabilities are, to successfully achieve economic growth and flourishing communities. Accordingly, this balance relies on competitiveness and protectionism, where the former is the ability of local suppliers to win work locally after competing with other suppliers, in open competitions, without excluding suppliers for being external. The latter (protectionism) was defined as the intentional or unintentional exclusion of external suppliers, outside local areas, through setting targets which limit competition. To clarify, high levels of buying locally can lead to economic prosperity if engagement with the local market is balanced. Whereas, if local suppliers cannot win work when competing with external competitors, local competitive capacity can be damaged, industrial competition can diminish and new risks are introduced despite intending to create jobs and economic demand (Warner, 2011). Local purchasing targets set by local clients result in protectionism if the local market cannot provide a methodology behind their choices or if they overestimate the capability of the local markets to provide the needed service or goods (Warner, 2010). Thai (2009) stated that local governments' ring-fencing products and services creates a conflict between supporting local suppliers' capabilities and damaging competition between suppliers, resulting in more expensive products and services and reducing the value of tax payers' money. He added that these approaches had no legislative basis, delayed delivery processes and reduced competition between suppliers.

Accordingly, client organisations need to balance between competitiveness and protectionism through developing knowledge about the local suppliers' trades, locations and capabilities to set balanced local targets; secondly, breaking down larger contracts to hire as much local SMEs as possible without compromising quality. Macfarlane (2014) stated that Powys County Council divided a £4.6 million housing contract into lots for smaller trades to support local SMEs with kitchen replacement contracts, bathroom replacement contracts and internal decorating contracts, with five out of the eight contractors being local SMEs. Finally, reducing the tendering process complexity is important to ensure that smaller contractors from local markets can bid (LePage, 2014).

2.5.2 Apprenticeship & Training Programmes as Social Value Outcomes

The Richard Review defined an apprenticeship as an individual seeking training of a trade from a skilled employer during which he agrees to work for a fixed period at a low wage benefitting him and the organisation from the scheme (Richard, 2012). McIntosh and Garrett (2009) indicated that 'apprenticeship' is not a traditional qualification where apprentices require new job roles and a significant amount of education before, they can do the job effectively. Macfarlane and Cook (2002) argued that improving skills and training was a public procurement objective which improved local labour employment opportunities. Apprenticeship programmes are important to the future of the UK's youth, which is why political leaders were often quoted supporting apprenticeship creation through public procurement. To clarify, apprentices' good understanding of the business, because of the education provided by the employer, increased their sense of loyalty and self-worth and employers benefitted from workers' motivation, productivity and labour retention. Accordingly, apprentices were less likely to be unemployed when compared to individuals who chose a different vocational training route.

In the construction industry, apprenticeships were promoted through public procurement, because construction apprenticeships attracted school leavers and college students, thus playing a role in transiting young people from school to sustainable careers, which created social and economic benefits (Hogarth & Gambin, 2014). Chevin (2014) stated that local authorities, through construction planning permissions, developed training and apprenticeship programmes to include the 506,000-people aged between 16 and 24 years who were considered unemployed but were capable of seeking work. Section 106 of the Planning Commission was an attempt to make training and apprenticeships part of contractual agreements where developers were contractually obliged to offer certain services to compensate for their project's impact. A client organisation delivered 1,150 apprentices and training opportunities with 48% of them from deprived areas using their market leverage to create a targeted approach in a Glasgow housing association case study (Macfarlane, 2014).

Nevertheless, the Richard Review clarified that the current apprenticeship process required reforms to overcome the complexity and random impact it was creating. Steedman (2015) stated that England had lower apprenticeship numbers, with 11 apprenticeships per 1000 employers, compared to other European countries, such as Switzerland with 43, Germany with 40 and Austria with 33. A lot of apprenticeship programmes ended abruptly due to the economic crisis of 2008 where the construction workforce dropped from 2.3 million workers

in 2008 to 2.1 million workers in 2013. Despite the projected rise in construction demand from 2010 to 2020, the number of apprenticeships decreased significantly resulting in multiple construction trades suffering from a shortage of skilled workers such as plasterers and joiners (Hogarth & Gambin, 2014). Public organisations used their market leverage to develop apprentice training programmes, however, there was a conflict of opinion about the degree of success in delivering these programmes. Hence, the UK government started reforming the apprenticeship schemes with the understanding that unless training and upskilling is championed, organisations will neglect its delivery through their projects.

In the reform, clients became the responsible parties to monitor and assist contractors in delivering SV by employing someone who could seek funding and monitor the apprentices. Hogarth and Gambin (2014) stated that two elements were applied in the new apprenticeships' scheme (implemented in 2017); firstly, increase the involvement of employers in the programmes' content based on the skills needed for specific occupations. Secondly, employers co-investing through paying training providers part of their fees, which was the state duty, to guarantee their engagement. Public funding persuaded contractors to take on apprenticeships because through the clients' pipelines of work, contractors can recoup what they invested in apprenticeships.

Macfarlane and Cook (2008) indicated that procurement for training is achievable but needed support from high level management or a change champion, because it required a change in the procurement culture, especially within the client procurement teams. They added that clients should provide resources for such training programmes because of the extra cost they incur (these programmes needed training agencies services and performance management organisations to monitor performance). Accordingly, construction clients have the leverage, through their construction pipelines of work, to deliver apprenticeships as part of their projects.

2.5.3 Employment Programmes (Job Creation)

Employment and job creation through public procurement is another outcome achieved through targeting certain groups with different needs, such as promoting the unemployed in returning to work or fighting poverty in poverty-stricken areas which are rising problems all over the UK, and especially since the economic crisis in 2008. The rise in poverty was expected to continue despite the current economic recovery, which stimulated the inclusion of recruitment plans to fight poverty and address similar issues (Macfarlane, 2014). In a poverty monitoring report, Aldridge et al. (2012) stated that 6.4 million people in the UK were defined as underemployed, this divided into 2.4 million wanting to work but economically inactive, 2.6 million unemployed and 1.4 with part time jobs because they could not find full time jobs. Despite the reasons for poverty, developing skills and increasing work experience can improve people's opportunities to escape from poverty (Macfarlane, 2014). Therefore, employment to fight poverty was promoted by major political parties as a replacement for benefits for people over 25 years of age, which is more flexible than procuring for training (serving the population between 16 to 24-year-olds) hence, it covers more candidates (Chevin, 2014). Accordingly, public procurement targeting the employment of certain groups in the community adds economic value to the employment and increases the amount of money spent in local markets (Lee, 2010). This makes employment through public procurement a contributor to

improvement of economic wellbeing of socially disadvantaged groups. In addition to poverty, targeted recruitment can cover groups such as disabled communities, long term unemployed individuals and the inclusion of certain ethnic minorities (LePage, 2014).

Furthermore, anchor organisations which Dubb and Howard (2012) defined as place-based organisations rooted in local areas and directly serving their populations (such as universities, museums and local authorities) can create jobs in these local areas through their procurement activities. During the construction of a library in Birmingham, 306 job opportunities were offered to the local workforce with 54% given to residents within the Birmingham area. The client was able to deliver their targeted recruitment goals and comply with the EU procurement rules and regulations without excluding non-local bidders. The client was aware of the EU labour movement requirements, which stated that public organisations can select recruitment agencies which target certain areas and still comply with the EU freedom of labour movement law if these agencies were open to all EU nationalities and these nationalities get equal treatment to British subjects. Accordingly, the experience and awareness of the public client procurement rules improved the creation of jobs in the local area (Macfarlane, 2014). Nevertheless, job creation through local procurement could be difficult because of several challenges, as listed below:

1. The lack of data a client has on their spending patterns and volumes of work and on suppliers' information, which offers clients an understanding about what opportunities the local workforce provides.
2. The inability to track the amount of local jobs created by local suppliers compared to non-local suppliers' jobs.
3. The conflict between the efficiency saving agendas that most public clients are adopting to reduce their costs, and the Most Economic Advantageous Tender (MEAT) which incorporates qualitative factors when awarding bids.
4. If the travel to work patterns and construction packages breakdown and durations are obscure to a client, the conceptualisation of labour suitability to the local projects is hindered and its impact can be reduced significantly.
5. Clients who do not have organisational champions, who are individuals with knowledge and experience to lead the delivery of local strategies for employment and job creation, or do not have the resources to train and recruit such champions (Lee et al., 2010).

2.6 The Social Construction of Social Value Measurement

To discuss the measurement of social value from a constructionism point of view, three terms must be explained as per Berger and Luckmann (1966) work (this is explained in detail in chapter 3 section 3.5);

- Social reality are beliefs that are shared and have been institutionalised;

- Habitualisation: frequently repeated actions frequently which forms patterns which influence future actions to be performed in similar manner;
- The Social Stock of knowledge is the total of what everyone knows including customs, common interpretations, institutions, shared routines, habitualisations
- Institutionalization: which happens when meaningful actions become routines and habitual;
- Historicity: passing habitual actions from one generation to another, the institutional world hardens which means they are perceived as existing beyond the individuals who represent them;
- Legitimation: institutions are given a cognitive and moral basis so that it can be explained;
- Maintenance: is what the custodians of the institutions do to maintain the reality of the institutions against any alternative definitions of reality which appears constantly.

Vera (2015) argued that measurements can be socially constructed but they are not constructed as a finished product or acquire a fixed form, they are changing constantly. Like any reality that is socially constructed, measurements are constructed and reconstructed through the processes of institutionalisation, legitimation and maintenance. The institution of measurement is shaped by a long sequence of social actions which are habitualised and form part of the stock of knowledge, which brings steadiness to the institution and reduces malleability. Berger and Luckman (1996, P78) argued that “The institutions, as historical and objective facticities, confront the individual as undeniable facts” which means that if an institution exists individuals deal with them as part of their reality. Vera (2015) added that when a traditional way of measurement is passed between generations it possesses objectivity and is subjectively experienced as having a reality of its own. The institution of measurement is required to be legitimised which means that someone should explain why this specific way of measuring is relevant and why this measurement should be done in that way and that way only. Historically, the legitimation (explained and justified) of measurement institutions is undertaken by experts who have interests and are supported by powerful groups who have political and economic interests whereby these experts attempt to obstruct the appearance of new methods of measurement to maintain the positive outcomes they have from holding methods, instruments and concepts of measurement used by the society.

The above argument implies that there are methods to measuring social value impact through an established reality as a form of institution. Measuring social value as with any other measurement method will change continuously because it will not socially be constructed as a finished product. The acceptance of how social value is measured depends on who was holding a theoretical relevant meaning and the political power to defend how it is measured. When SV is measured the justification of measuring it this way is based on who is measuring it, so if it were client organisations their methods and justifications of measuring is supported by their power as public entities and their influence over local populations and the supply chain members who would adopt the same methods and acknowledge that. Berger and Luckmann (1966) stated that the prevailing definition of reality will depend on the power of who is carrying it and not theoretical relevance. Therefore, methods of measuring SV are socially constructed based on the power of who is constructing it. Vera (2015) argued that when individuals of a specific society have common interpretations of reality, part of their

intersubjective (shared between more than one conscious mind) experiences creates a social stock of knowledge. This stock of knowledge is constructed in general knowledge and what is relevant to certain groups creating a distribution of knowledge. It is not the same as studying what knowledge is constructed for a certain group and the general knowledge shared by everyone. Accordingly, investigating the measurement of SV is acceptable from a social constructionism point of view but not as a final product where it is a subjective measurement and will rely on how it is constructed socially and the influence of who is constructing it.

Cartigny and Lord (2017) argued that measuring social value is important to evaluate how effective government policies are in terms of social wellbeing of the people they govern because economic performance alone cannot be the representative of such effectiveness. SV has a soft nature because it covers the wider non-financial impacts of project outcomes and improves communities' and individuals' wellbeing. The values created through construction projects varies according to the perceptions of who views but this value can be realised through the material entities being delivered. Measuring SV impacts is challenging because they are rarely systematic due to the existence of different perspectives about the value they add. Conversely, measuring other impacts, such as reducing carbon emissions, tracks quantifiable outcomes, through a systematic process based on a logical collection of data evidencing the impacts, which is applied directly to the business evaluation (Arvidson & Kara, 2013). Therefore, to measure SV the assessment process needs to go beyond predefined quantifiable objectives and track how value is created, and where the methods of evaluation are tailored to track back the impacts against certain policies, making the evaluation process contextually orientated. Moreover, this becomes crucial as measuring SV can potentially marginalise specific impacts of the projects, such as policies targeting certain groups (Arvidson & Kara, 2013).

Organisations measuring SV acknowledge that some expectations cannot be met but that does not eliminate the importance of measuring SV impacts. The levels of measuring SV vary, from not measuring any impacts (doing nothing) to measuring each impact of the project beyond the project scope (measurement 'Nirvana'). Accordingly, there are multiple tools and techniques, developed in the public sector, to measure SV and assess the impact of their investment (Russel, 2013). At one end of the spectrum, there are the subjective tools which cover 'soft' non-financial value, such as the Social Return on Investment (SROI) tool, and at the other end there are tools which easily quantify the value created by the direct investment in local areas, such as the Local Economic Multipliers (LEM). The following is a review of both these tools and how they are used in the construction industry.

2.6.1 Social Return on Investment

The UK Cabinet Office (2009) defined Social Return on Investment (SROI) as a method used to measure the value created through any type of investment. SROI is a derivative of the term Return on Investment (ROI) which Olsen and Lingane (2003) defined as the impact of certain businesses' social outcomes in a monetary form compared to the initial investment independent of the financial returns on investment. Finally, Bridgeman et al. (2015) defined SROI as a method used by key stakeholders to measure non-universal values important to these key stakeholders. Hence, SROI is a quantitative representation of what an investment decision has

changed socially, which qualitatively describes the results of these quantitative measurements. SROI, more than other measurement tools, uses qualitative evidence obtained from key stakeholders influenced by investment outcomes. Initially, SROI was promoted through third sector organisations, however, it was adopted by private and public organisations in different industries because it tracks diverse impacts and improves outcomes. SROI was used to measure different impacts, which are discussed below:

1. Watson and Whitley (2016) used SROI to measure the impact of design on end users from the users' perspectives because it measured the value they gained.
2. Bridgeman et al. (2015) used SROI to measure the impact of disadvantaged young people joining construction in multiple organisations.
3. Olsen and Lingane (2003) stated that SROI measures the environmental impact on certain project stakeholders and from the stakeholder perspectives.

The SROI process provides a story, from a stakeholder's point of view, which describes the impact (positive or negative) of change occurring in a certain context through using monetary values to represent these changes. There are seven stages to apply the SROI story, which are:

1. Scope and stakeholder definition - this stage defines the scope of the SROI measure and conceptualises the key stakeholders involved, providing input, in the process. The scope definition provides data about the activities being assessed, the duration of the assessment, and the justification of these choices. Choosing activities requires data collection from different stakeholders to ensure SROI is not biased. The data is collected through interviews, focus groups and surveys, to build up the context and provide a rich understanding of the activities.
2. Mapping outcomes - this stage conceptualises the change and verifies it through the gathered evidence. It also differentiates between positive and negative changes and between intended and unintended changes. By interacting with stakeholders, a relationship between inputs, outputs and outcomes is mapped to help understand what is delivered as change.
3. Evidencing outcomes and giving them value - in this stage, once the outcomes are conceptualised and data gathered, values are then assigned to these outcomes. The more data collected the more accurate values these outcomes are given. Some outcomes are easy to give monetary values to.
4. Avoiding duplication - in this stage, the impacts which happened anyway regardless of the activities are conceptualised and removed from the ones being assessed. This prevents organisations from over claiming about their outcomes or claiming what they did not develop.
5. Calculating SROI - where all the positive values are added, and the negative values are subtracted, with the result being compared to the initial investment. This comparison serves the main purpose of SROI which is to compare impacts with outcomes.

6. Reporting and verifying SROI results - SROI results are reported and verified through feedback from the stakeholders of the first stage. Through involving and communicating with the stakeholders, users make sure that the results are relevant and that positive impacts are embedded in future processes (The Scottish Government, 2010).

Accordingly, SROI is favoured as a way of measuring the wide range of social and economic outcomes (Westall, 2012). Russel (2013) argued that SROI is a popular method of measuring the monetary values of outcomes in the housing sector, because this sector looks to assess the changes caused by their activities and the value created by such changes.

2.6.2 Local Economic Multiplier

The multiplier effect is defined as an increase in an area's revenue because of a monetary injection in the form of an investment made in a local market, where the demand increase of one activity increases the demand for other activities, therefore, development is triggered creating an economic multiplier. Accordingly, the Local Economic Multiplier (LEM) attempts to quantify and track the amount of money that remains in the local market after an investment is made. The higher number of times money changes hands improves the local economy, where the amount spent in an area multiple times is the same as providing new investments in the same area. Therefore, it is important to track local spend within local communities to conceptualise the benefits of having capital investments, such as construction, in the local market (Domański & Gwosdz, 2010). Information about market behaviour, such as supply and demand in local economies, is not enough to provide an evaluation about money entering or exiting the market. For example, if large companies hire SMEs to supply goods on occasion, but prefer doing their business with large accountants, purchasing from large suppliers and making late payments to large suppliers, it is unclear if the large suppliers hire and buy locally or not. In addition, local SMEs might hire locally or buy from outside markets which impacts the local economy. As a result, Local Economic Multiplier (LEM) is a widely acceptable method of evaluating the economic impacts of investments, trades and initiatives since its development by John Maynard Keynes in the 1920s (Sacks, 2005).

It is important to measure and track the economic multiplier of local investment and to assess whether the information produced indicates if future projects could follow the same concepts or not. In local contexts, organisations spend money in different ways; however, they tend to spend much of their money on staff salaries, contractors and subcontractors, suppliers of goods and services, and overheads (rent, mortgage, etc.). Hence, the way local economic multipliers work is that they track every unit spent in a certain area, the amount received by tier one contractors as round one; then materials, wages and staff members' expenditure is tracked as round two. The third round drops down to lower tier contractors and includes their materials, wages and staff members' expenditure. Accordingly, the multiplier is calculated thus:

$$LEM = \frac{Round\ 1 + Round\ 2 + Round\ 3}{Round\ 1}$$

An example of how LEM is important for decision making was discussed by Sacks (2002); a local economic multiplier in Tayside showed that local B&B businesses had higher impacts on

the local market than large hotels, because tracking large hotels' expenditure in the area indicated that these hotels had staff members from other areas, their owners were not from the local area, and they hired legal practices from other areas. On the other hand, the B&Bs were locally owned, had local staff members and most of their income was spent locally (Sacks, 2002). Using LEM to measure SV, despite being cumbersome because of the amount of data collection, is a straightforward exercise to measure money circulating in the local market. Contrary to SROI, there is no qualitative data collection or stakeholders' preferences because LEM directly tracks money spent on salaries or in supplying expenditure. Because the values are predefined in fiscal quantities in the local market, there is no subjective data collected to define the values being created.

2.6.3 Critique of Commercial Methods to Measure Social Value

The popular methods of measuring value for construction projects' procurement rely on putting a financial value on soft outcomes and the values they create which can be very challenging because values such as higher self-esteem and happiness cannot be financially measured. Oppositely if these values cannot be financially measured the values created will be underestimated. Other values can be measured from a commercial point of view such as anti-social behaviour reduction and reduced youth unemployment but there are no guarantees that such values are created as a direct result of the procurement activities (Wood & Leighton, 2010).

Furthermore, a successful SROI implementation is very difficult because of the effort and resources required to approach multiple stakeholders, understand the added value and investigate the situation before, and the impacts after, making the investment. In addition, the integrity of the SROI is challenged by clients who over-claim on outcomes (that were not the outcomes of their investments) without an accurate investigation. The subjective nature of naming the outcomes in the initial stages of SROI influences the level of acceptance of what the SROI implies as improved values and outcomes. SROI varies according to the different perspective of who is applying it as a stakeholder because the initial stage varies from one organisation to another even within the same project where organisations view the values differently (Arvidson et al., 2010). The economic multiplier tracks how the money is spent through the procurement activity where it provides a number which represents the amount of money circulating within the local economy.

From client organisations' perspectives measuring social value can benefit them in demonstrating what their investments have created in terms of community wellbeing and can help them justify their decisions through audits and public scrutiny. However, from the benefiting individuals' perspectives social value cannot be measured financially because the values are achieved in people's improved feelings, connections and changed perceptions making the attachment of a monetary figure to such values a wasteful effort (Cartigny & Lord, 2017).

2.7 Challenges to the Creation of Social Value

Despite a rising interest in creating value, increasing efforts of central government, and merging EU initiatives to change public procurement approaches, SV programme successes

are inconsistent (Bratt et al., 2013). The Cabinet Office's (2015) Social Value Act Review indicated that, despite the growing awareness of SV, its inclusion was in a very small scale of the total amount of public procurements due to bureaucracy in procurement processes. Accordingly, defining, implementing and measuring different forms of SV was challenging to public organisations. Bebbington and Dillard (2009) argued that globally, there are four obstacles for the social element of any business: firstly, the business's commercial objectives being dominant over the SV of the business. Secondly, the social element of sustainability was linked to developing countries (focusing on better access to water, housing, healthcare, education and child labour) but was not part of the developed world sustainability policies. Thirdly, public organisations were accountable for SV and not the private organisations. Finally, social issues were more demanding and complicated than environmental issues where measuring environmental impacts is easier than measuring the improvement of a population's quality of life.

Similarly, EU member states could not achieve consistent success in measuring SV because of the confusion in defining SV outcomes and how it complies with EU and national procurement regulations (Chevin, 2014; HM Treasury, 2014). Secondly, SV implementation methods did not provide proper guidance and there was concern about overcoming implementation challenges. Finally, the lack of a universal measurement bank to assess the impacts of public projects meant that public officials' investment decisions could not be justified to taxpayers (Bridgeman et al., 2015; The Cabinet Office, 2015). The following is a discussion of these reasons in more detail.

2.7.1 Defining and Choosing Social Value Outcomes

Public procurers cannot always choose which outcomes to deliver through their projects because the wide spectrum of social issues causes confusion among them. Hence, conceptualising outcomes suitable for the project's nature and, at the same time, which serve the local population, is not an easy process (LePage, 2014; Westall, 2012). SV has a soft qualitative nature which conflicts with the prevailing quantitative culture (cost, time and quality) of public project procurement, which prevents public procurers from conceptualising suitable SV outcomes for their investment programmes (Arvidson et al., 2010). Public procurers confuse construction project outputs with outcomes when defining SV and then they retrospectively justify their decisions without investigating the long-term impacts on local communities (Russel, 2013).

In addition, local politicians influence procurers to set targets for recruiting local SMEs without a thorough process behind developing such targets, which can harm the local market. Warner (2011) illustrated this problem when he discussed a rumour about Petrobras deciding to reduce its local expenditure from 65% to 35% to improve the supply quality by going to the international market; this created tension between the organisation and political figures in Brazil. This led the organisation to refute the rumours to avoid political pressure, without assessing whether the decision was commercially viable or not. Setting local expenditure targets was protectionism for the local suppliers but hurt them in the long run. On a local level, procurers acted similarly by procuring locally even if local suppliers did not possess the capabilities to deliver these targets.

Accordingly, it can be argued that construction jobs should not be de-skilled to award contracts to local suppliers if these suppliers cannot compete with outsiders, a concept which is often misunderstood in local governments. These practices cannot be justified commercially and give local politicians a false sense of success, whereas the reality is that projects were commercially abused. Furthermore, the contractual language used to transfer a local population's needs and requirements from local authorities to contractors can be limited and, in some cases, vague. In some cases, local needs are applied through section 106 of the Urban Planning Act or under the umbrella of the Public Services Social Value Act which did not provide any guidance to public procurers trying to articulate the required SV outcomes (Chevin, 2014).

Public policies should guide public procurers on how to achieve their SV targets; however, if these policies were developed during specific economic circumstances (such as economic prosperity) they become unfit if the economic circumstances change. This is a challenge to SV because the economic circumstances change all the time and policies try to catch up. For example, the aggregation of public demand on construction projects between the years 2000 to 2008 provided the clients with the bargaining power, when procuring goods and services, to have more SV outcomes, such as apprentices and local employment. However, after the 2008 economic crisis, the aggregation of demand was not suitable, whilst breaking projects into small bundles was preferable to create SV in a stagnated economy (Murray, 2009).

2.7.2 Lack of Social Value Implementation Mechanisms

Despite the flux of public policy publications on social value, implementation mechanisms were missing from most of these publications, because these publications discussed high level statements without any implementation guidance to public procurers (Bratt et al., 2013). The UK Parliament's Public Service Social Value Act was an Act of Parliament issued to encourage public authorities to include SV requirements in their contracts; nevertheless, it had no direct regulations or procedures to assist clients in delivering SV (LePage, 2014).

A case study in Northern Ireland indicated that public procurers could not conceptualise any guidance on SV and if they delivered SV, they were not about being OJEU compliant (Erridge & Hennigan, 2012). The reason for this was that individuals on their own could use new methods to deliver SV outcomes but the dominant risk aversion practices in public organisation cultures resulted in a lack of support from the organisation to new innovative methods, making individuals stay in their comfort zones and not using new methods and mechanisms (LePage, 2014). McLaren (2011) argued that the lack of methodologies for SV implementation was due to the lack of theoretical models which guide the procurers on a scientific basis. Contrary to the vast amounts of money spent on R&D in environmental sustainability, technology and business research, the resources invested in social innovation were very scarce. Even in the public-sector's R&D investing in public needs research was limited (Mulgan et al., 2007).

Finally, because SV was promoted on a strategic level, a gap between SV strategic level vision and project level detailed requirements and methods appeared. This gap was reduced in some cases by organisational champions (Bratt et al., 2013). Chevin (2014) argued that, to commit to SV in construction projects, certain individuals play the role of organisational champions, offering strong leadership and persuading different parties to overcome resistance. However,

organisational champions who support SV through their political influence in different organisations are not always available (Preuss, 2009; Seurig & Müller, 2008). Furthermore, an organisational champion cannot be a long-term solution for SV because public clients were losing in-house staff due to diminishing resources, which reduces the numbers of individuals who play the role of organisational champions, resulting in lower SV implementation understanding when much of their competent workforce migrate to private sector organisations (Lee et al., 2010)

2.7.3 Inability to quantify Social Value

The British government, during the 1990s, attempted to innovate in the assessment of publicly procured goods' and services' social and environmental outcomes, but there is no evidence of success in this effort (Arvidson et al., 2010). The assessment of SV was viewed as measuring, in some form, the impacts of the procured goods and services on different stakeholders based on their varying perspectives and priorities as an attempt to precisely capture results. Because there are different perspectives on evaluating SV, such assessment cannot be conducted with ease and quantification, and assessment attempts may get complicated and diminish public officers' attempts to rationalise their choices (MacLaren, 2011). LePage (2014) indicated that, despite some of the examples he gave on examining outcomes, there was a lack of evidence which hindered progress of impact assessment, whereby organisations could not always provide evidence that would support their judgement which, in turn, affected their accountability in achieving certain benefits. Rokeach and Ball-Rokeach (1989) argued that there is no consensus among researchers as to how to measure values in a way that would make it meaningful for individuals at the micro level or for society at the macro level. Values can be arranged and weighed based upon their importance to individuals.

Murray (2014) may have provided an explanation of this problem as, in his view, despite the public sector having competent practitioners in procurement and in the delivery of public goods and services, it is not able to assess SV due to a lack of benchmarking data or quantitative track records, which thus weakens the sector's ability to measure SV outcomes and their impact. Due to this lack of benchmarking data, some public officers try to assess SV retrospectively whereby they consider any type of output to be of SV without being pre-planned or expected, which hollows out the notion of SV. Furthermore, because of the soft non-quantitative nature of SV and how it varies from one stakeholder to another, its assessment has to contain a certain degree of subjectivity or qualitative concept (Russell, 2013). Examples have been given of a sector-related ability to unify benchmarking and improve the ability to compare through adding qualitative related characteristics, which can capture a variety of perspectives and points of view; however, these are in the preliminary stages and cannot be easily emulated across other sectors (Wood & Leighton, 2010).

Finally, because of the prevailing lowest cost culture in the public sector, any assessment tracks cost savings making the introduction of subjective or qualitative forms of measurement out of business norms and unreasonable to set in place (LePage, 2014). In the earlier example of using SROI to measure SV, there was a conflict between the general usage of ROI (which is the ability to compare different ROIs within different organisations or within the same organisation over time) and the inability of undertaking the same with SROI (where it is not easily compared

with other organisations' figures/values) so users are not encouraged to compare different SROIs. Accordingly, calculating SROI is an inconsistent topic because it lacks a unified platform of information about financial proxies; this hinders the comparison between different projects, which means that SROI requires great effort to justify and formulate, which can be time consuming and costly (Bridgeman et al., 2015).

2.8 Chapter Summary

This chapter has provided an insight about SV as the investigated phenomenon, through reviewing its origins in business models then reviewed strategic procurement and its role in promoting public policies. The chapter then reviewed construction projects as the platform for social value context and the soft procurement outcomes which lead to the creation of value. Finally, the challenges facing SV context were examined. Accordingly, this chapter investigated the situation of SV from different angles and looked at its origins, current practices and challenges within the construction contexts and provided an initial understanding of how problematic the situation was.

Chapter 3 What Influences SV in Construction Projects Structuring the Problematic Situation

3.1 Chapter Introduction

The previous chapter reviewed social value (SV) literature with regards to public construction projects, the its challenges and what different stakeholders depicts as SV. This chapter construct the problematic situation and an understanding of it by examining the factors which are anticipated to affect construction projects, and how they might influence project outcomes. These factors are known as external and internal factors and were reviewed to understand what can be influencing the outcomes leading to the creations of social value and also in order to narrow the research focus. In addition, the stakeholder literature was reviewed to understand the role of organisations influencing the delivery of construction projects outcomes. Human actors and their influence of being involved in the project on the decision-making process is discussed from a social constructionism and Soft System Methodology point of view. Finally, the research propositions are constructed based on chapters 2 and 3. The chapter is structured as follows:

1. Factors Affecting Construction Projects.
2. External Factors:
 - A. Client Organisations;
 - B. Procurement Route;
 - C. Local Context;
 - D. Construction Projects' Funding Sources;
3. Internal Factors:
 - A. Design, Construction and Sector Characteristics;
 - B. Managing Suppliers and Supply Chains;
 - C. Construction Project Cost;
 - D. Construction Project Type.
4. Understanding Construction Projects' Stakeholders
5. Research propositions.

3.2 Factors Affecting Construction Projects

Soft System Methodology was the methodology suitable for use by this researcher because of multiple reasons which are discussed in more detail in the next chapter. Hence, this chapter plays a key role in the application of Soft System Methodology in the situation which is considered problematic. Once it is recognised that a situation might need change or review, some basic research into the situation is required. Accordingly, an initial investigation should

be carried out to understand who the key stakeholders might be, what influences the performances and how issues might arise in what is being investigated. This phase is significantly important to the research according to Checkland (1999) because it constructs the situation and how it might be perceived. Also, the researcher reviewed stakeholders who might influence SV in construction projects, factors which might affect construction projects' performances and the issues which might arise from SV creation in these projects. Also, the factors reviewed in this chapter provided the selection criteria for the multiple case studies (the research strategy is discussed in chapter four) in chapter six where the cases were chosen based on these factors.

Construction projects are always in a dynamic state because of new technology, development processes, procurement rules and financial sources resulting in increased complexity of these projects. This dynamic and complex nature of construction projects is influenced by multiple factors which impact the projects, their delivery processes and how their objectives are achieved. These factors can be organisational activities which impact project performance through determining how effective organisations manage their projects (Omran, Abdulbagei & Gebril, 2012). These factors vary across different stages in a project or from one project to another and are managed throughout the duration of the project (Sanvido et al., 1992).

Construction project factors can be grouped according to different research approaches where they can be hard engineering factors, such as technological advancement, production processes and organisational structures when or soft organisational factors, such as employees' behaviour, individuals' values and human resources. Omran, Abdulbagei and Gebril (2012) argued that different objectives are influenced by different factors from one stakeholder to the next. Tabish and Jha (2011) stated that factors influencing construction projects were not universal because stakeholders have different perspectives about the factors suitable to their perspectives. Accordingly, these factors can be approached according to stakeholders' perspectives and their project objectives. Inayat, Melhem and Essmaiey (2013) stated that the influence of construction project factors varies according to the stakeholder's role where a contractor organisation perspective of the same factors can be different from those of a project management organisation for the same project.

3.2.1 Factors affecting Procurement of Construction Projects

Rowlinson (1999) argued that construction projects from a procurement perspective are influenced by specific factors which are different from factors affecting construction projects from technical or social perspectives. Factors such as the national and local culture, organisational form, project phases, contractor selection process, contract documents, project funding, leadership are among the factors which he saw as influential to the procurement of construction projects. Aritua, Smith and Bower (2009) indicated that construction projects' activities, performance and outcomes can be influenced by the continuous changes in the its external and the internal environment. Howes and Robinson (2005) argued that the factors influencing the procurement of infrastructure projects can be external or internal to the project. Through investigating a diverse range of infrastructure projects' procurement Howes and Robinson (2005) viewed a construction project as a system which have smaller subsystems and is part of a higher supersystem where it can be influenced by supra system's externally or

subsystem's internally. External influencing factors originate from the project's external environment (supra system) such as strategic procurement, finance, social and economic context where the project has no influence on these factors. Internal influencing factors originate from the project's internal environment (subsystems) such as project design choices, construction method, location and supplier management approaches where the project can influence these factors. Accordingly, this research used the external and internal factors perspective to review the factors affecting construction project's performance and may have an impact on the SV context. The external and internal factors are discussed in detail below.

3.3 External Factors

External factors influencing are perceived to have an impact on the social and economic benefits on construction projects. Accordingly, the external factors influencing construction projects are:

1. Construction Clients: they are the leading stakeholder and their characteristics influence construction projects' performances and objectives;
2. Procurement Route: this factor influences the relationships between the client and supply chain members and provides the culture which supports it;
3. local context: this factor consists of community needs and what the local supply market capabilities;
4. Funding of Construction Projects: this factor is about the influence funding sources and mechanisms have on construction projects.

3.3.1 Construction Clients

Tabish and Jha (2011) argued that construction clients' sophistication and their ability to lead a supply chain in delivering the project objectives is a significant factor which affects project success. HM Treasury (2013) indicated that the performance of public construction projects was influenced by client organisations' characteristics and sophistication where these characteristics create patterns of behaviours which affect the delivery processes of these projects. Construction clients lead supply chains through their buying leverage and influenced stakeholders through their policy interpretation. Winch (2002) stated that the government, as a client, contributed more than 50% of construction outputs, which provided the opportunity for the implementation of national policies and promoted innovation in construction activities. Client characteristics can, therefore, affect construction project performance, objectives and SV, which creates the need to investigate the characteristics below.

3.3.1.1 Definition of a Construction Client

A client is defined as an individual or an organisation freely purchasing services, products, or both, from the market for a profit. Likewise, construction clients are individuals or organisations initiating building processes through awarding contracts to other parties to supply construction products and then, acquiring these construction products at the end of the contractual arrangement between them and the supplying parties (Chinyio et al., 1998). The term 'Construction Clients' describes the construction project owners, representatives acting on behalf of the owners, or the end users (Green & Simister, 1999). 'Institution Clients' is a

term describing complex organisations being either direct owners or the operators of construction projects who pool resources to fund these projects through public pots, private pots, or a mixture of both (De Blois et al., 2011).

Construction clients are construction projects' key stakeholders leading the delivery process, who select the outcomes (including SV) and control the performance through exercising the influence of their buying power on other stakeholders (Levander et al., 2011). Alinatiwe (2008) noted that main contractors satisfy construction clients' needs to win more work especially if the clients have a large construction pipeline, even if they have opposing views about client performance and responsibilities. Winch (2002) mentioned that 50% of capital investment annually is in physical assets which means that construction clients are more likely to be a repeat client for main contractors. Cheng et al. (2008) argued that contractors aim to fulfil or exceed the expectation of their clients through delivering services or products which achieve the clients' strategic objectives making construction clients the initiators. Construction clients are unlikely to be individuals, most of the time, they are organisations or groups of people; even if the client is legally a single person, this individual's decisions and approach towards the project will be influenced by relatives or associates (Boyd & Chinyio, 2006). Most construction client organisations consist of groups of people, forming clusters of stakeholders, who have different ideas, views, understandings and needs, which lead to the development of conflict in perspectives on key issues (Briscoe et al., 2004). Brensen and Haslam (1991) argued that a construction client has multiple reality perspectives of a new project formed by its business units (departments) making it difficult to satisfy all these departments even if the project's mission contains all their needs. They added that personnel from different departments with the same level of influence in an organisation will have conflicting opinions about procuring a new project or using an existing facility to achieve the organisation's objectives.

Accordingly, construction clients can have multiple conflicting realities informed by the contradicting perspectives of their business units (departments) (Green & Simister, 1999). Client organisations view construction projects as physical entities and build their decisions towards these projects based on the commercial value of these entities where this commercial value, and subsequent organisational development, created by the physical entity, is what drives construction clients to procure them in the first place (Boyd & Chinyio, 2006). Therefore, understanding the impact new buildings have on client organisations' business objectives is important to the successful delivery of construction projects. Clients transform their strategic objectives into physical requirements achieved by the delivery of the construction projects, for example, a university with a strategic objective of increasing their market share through attracting more students which they achieved through building new accommodation facilities (Green & Simister, 1999). Below are three characteristics which influence construction clients' approaches towards construction projects:

External (Environmental) Characteristics: client organisations are perceived as systems with their departments as sub-systems and these systems have external environments influencing it, which are outside the control of these organisations. These environments shape clients' activities define their corporate goals, objectives and strategies of work and what makes client

organisations successful is how they adapt to deal with constantly changing external environments (Boyd & Chinyio, 2006). Examples of external environments are market conditions, resource availability, political atmosphere, economic climate, regulations and legalisation.

Organisational Characteristics: an organisational culture is the values, norms, symbols and beliefs which influence how individuals function in an organisation. The sectoral culture influences organisational cultures making it difficult to name an organisation with a culture independent from its sector values and norms; however, organisational culture can be latent and difficult to name. The values and norms, which form organisational cultures, influence construction clients' decisions and approach towards their projects in all stages of delivery from inception to operation. Decisions about funding, feasibility studies and the project brief and objectives are among the decisions impacted by the organisational culture and influence its success (Lim & Ling, 2002).

People's Characteristics: Individuals' views and behaviour influence how their organisations work; where individuals with different perspectives view the same object differently based on their experiences and personal beliefs. In client organisations staff and project champions' experience, personal values are essential to project success because they structure how these individuals respond to the external circumstances of a construction project. People's characteristics are among the 'unknowns' of organisations because they are latent and are not easily named (Lim & Ling, 2002).

3.3.1.2 Construction Clients' Classification

Construction clients are different (heterogeneous) with no specific theory to generate a unified understanding of all construction clients' types because each client organisation develops unique experiences and knowledge which does not apply to other client organisations (Levander et al., 2011). Accordingly, grouping construction clients into classes provides clarity over how different types of clients behave collectively because classifying clients, based on their attributes, provides a structured approach to understanding their approaches and decision-making processes addressing their business and projects (Alinatiwe, 2008; Chinyio et al., 1998).

Construction clients' classification must be appropriate to the undertaken research; therefore, this research classifies clients based on; firstly, clients being public or private organisations. Secondly, based on whether construction projects are clients' primary source of business through constructing, selling and/or leasing buildings; or if construction projects are clients' secondary source of business through using constructed buildings to do their business (Boyd & Chinyio, 2006; De Blois et al., 2011). Thirdly, clients' level of experience and whether these clients are experienced (sophisticated), partially experienced or naïve organisations (Masterman & Gameson, 1994). The following section discusses these client classifications.

3.3.1.3 The Difference between Public and Private Clients

The drivers of public and private organisations differentiate them, because public clients procure construction projects, to fulfil public needs as their main driver, whereas private clients procure construction projects to fulfil their business needs and maximise profits for their shareholders as their main driver. Public client's decision-making strategies are based on the organisation's external environments and influenced by non-commercial circumstances which sometimes limit their freedom in delivering their strategic objectives. Public clients answer to public scrutiny and pressure due to public procurement's lengthy procedures where they tend to be risk averse and create rules to reduce public pressure in any situations (Wong, Holt & Cooper, 2000). In contrast, private clients' actions are based on their profit maximisation strategies which are supported by internal structure and hierarchy to approve it more than on non-commercial external environments (Boyd & Chinyio, 2006).

Public clients, such as local authorities, central government and nationalised corporations, are valuable construction clients because they procure more than 40% of national construction outputs. Accordingly, public clients use their large share in national construction outputs, to lead change, through their buying power, by demanding new and innovative solutions to their projects. Private clients often follow the innovative practices of public clients to their projects (Winch, 2002). For example, public clients use their construction projects to implement sector specific policies which have not been applied before (Alinaitwe, 2008). Since the early 1990s, several governments adopted new methods to deliver public products and services, including construction projects, by adopting private sector methods and strategies to improve their processes (Briscoe et al., 2004). Public clients adopting these methods influence the construction sector through, firstly, using private finances in the form of concession contracts to deliver public projects changed sectors structures such as the utilities sector with water services oligopolies. Secondly, public procurement demand for probity and accountability results in low cost and competitive tendering approaches to be dominant in public projects. Finally, policies dealing with local economic development influence the state into supporting specific procurement policies such as ring-fencing prices for social benefits or favouring local suppliers for local economic regeneration. Wong, Holt and Cooper (2000) concluded that when public and private clients evaluate tenders, prices are important, amounting to almost 70% price of weight and 30% of the weight on other criteria.

Furthermore, Boyd and Chinyio (2006) named three domains which influence public clients' decision-making, which are the political, managerial and professional domains. In the political domain, limited resources of public sector clients influence their decision on what services to procure and what services they pass. In the managerial domain, clients develop tools, by producing procedures and developing hierarchical structures for implementation, to deliver the services chosen. In the professional domain, clients focus on the operational aspects of the delivery processes. In addition, Briscoe et al. (2004) compared public and private clients as detailed below;

1. Public client individuals had personal knowledge and values based on their years of experience in serving the public which formed their views about construction projects,

whereas, private client individuals had supply chain management experience and competitive natures forming their views and opinions.

2. Public clients' skills' shortage and knowing that in-house solutions were not available influenced their approaches towards their projects. Private clients had in-house teams guiding the organisations' decisions through their technical experience.
3. Public clients' decisions were influenced by their experience, operational needs, business strategy, finances and volume of work. Similar factors influenced private clients; however, private clients had more freedom when choosing their payment methods.
4. Public clients are influenced by legislation, procedures, processes, labour market improvement initiatives, authorities and the physical environment. Private clients' external environment was their market place conditions without worrying about other external factors.

3.3.1.4 Experienced, Partially Experienced and Non-Experienced Clients

Classifying clients based on their experience levels and experience related characteristics provides better justifications to their behaviours and decisions (Alinatiwe, 2008; Masterman & Gameson, 1994). Also, Naoum and Mustapha (1994) argued that classifying clients based on their experience makes their decisions justifiable and approaches are structured. Cheng et al. (2008) indicated that uninformed clients' decisions prevent consultants and contractors from addressing their needs properly and negatively influence the project performance causing dissatisfaction for these clients. On the other hand, experienced clients choose suitable procurement systems and select competent contracting partners who can deliver their needs, which positively influence projects' performance (Chinyio et al., 1998). Hence, classifying clients based on their experience level can understand their ability to achieve their objectives and deliver successful projects.

Public and private experienced clients are more effective, than less experienced clients, in delivering their objectives in construction projects through their consistency in procurement, familiarity with delivery processes, performance management knowledge and their adaptable approaches to changing circumstances. Experienced clients used diverse approaches for their projects according to the circumstances and variables of the project; whereas, a lack of experience for unexperienced clients did not produce any patterns which the client followed to achieve their objective and chose their approaches on a random basis (Naoum & Mustapha, 1994). Brensen and Haslam (1991) argued that client attributes were more influential than project attributes in construction projects where a project's type or cost did not influence the results as the client level of experience did because clients were able to manage these variables to their advantage. Below is the client classification based on their experience level.

1. Uninformed (naïve) clients do not procure construction projects for a very long duration. They are challenged to select appropriate procurement routes because they lack the in-house experience and the knowledge to guide the selection processes. Naïve clients' initial decisions about the construction market are less-informed because their market interactions happen sporadically.

2. Partially informed clients procure small numbers of projects with long durations between them. They have limited experience in small projects but do not have the experience to programme large projects. Partially informed clients are difficult to name unless they develop projects which indicates their lack of experience during the delivery processes.
3. Well informed (experienced) clients procure construction projects frequently or their business is construction work, such as developers. Being experienced in a specific type of project does not guarantee the client can deliver different types with the same success, for example, an airport authority experienced in developing new terminals might struggle when delivering a new cooperative head office (Masterman & Gameson, 1994). Blismas et al. (2004) indicated that clients managing portfolios of small and medium sized projects simultaneously develop their in-house expertise of time and cost control across multiple projects.

3.3.1.5 Primary and Secondary Construction Clients

Naoum and Mustapha (1994) argued that classifying clients based on multiple variables enables researchers to predict their behaviours and their projects' performance. Hence, this research decided to classify clients based on their business and whether they are primary or secondary construction clients, because clients are influenced by their businesses' characteristics. Primary clients are organisations whose main business and income is from construction projects, such as property developers or housing associations making them repeat clients. As repeat organisations primary clients are experienced in choosing procurement strategies, dealing with complexities, managing uncertainties and achieving success, in specific types of construction projects. However, primary clients are challenged when delivering construction projects which they are not familiar with and where they cannot rely on their repeat experience. Moreover, secondary clients are organisations which provide non-construction services or products but use construction projects as an enabler to their objectives. Secondary clients' construction projects serve their operations or are delivered on behalf of other organisations; for example, manufacturers, city councils, water companies and power supplying companies, are all secondary clients. Experienced secondary clients deliver a diverse range of projects with precision and competence which diversifies their experience. However, primary clients have more experience than secondary clients, in their repeat projects but less experience than secondary clients in a diverse range of projects (Masterman & Gameson, 1994).

3.3.1.6 Client Classification Model

The researcher developed a client classification model based on the previous three variables to predict their decision making and performance patterns. Figure 5 provides a matrix to classify clients, and is discussed below:

1. Clients can be:
 - A. Public primary experienced;
 - B. Private primary experienced;
 - C. Public primary partially experienced;

D. Private primary partially experienced clients.

(Note: there are no primary inexperienced clients because if their main business is construction they are not inexperienced). Primary experienced clients hire experienced suppliers who can depict their needs and fulfil them. These clients have the power to change their markets, for example, pension funds and insurance companies invest a vast amount of their money in construction projects making construction their main organisational activity.

2. Clients are classified as:

- A. Public secondary experienced;
- B. Private secondary experienced;
- C. Public secondary partially experienced;
- D. Private secondary partially experienced;
- E. Public secondary inexperienced;
- F. Private secondary inexperienced clients.

Secondary experienced clients do not depend mainly on construction; however, they procure construction projects to perform their tasks, and may be repeat clients for diverse construction projects. Accordingly, they have good in-house expertise on different types of buildings but maybe challenged when delivering projects which are highly specialised. For example, a local authority could struggle when delivering a rail project. Secondary inexperienced clients follow the advice of consultants giving these consultants power over their decisions where consultants are the clients' first point of contact when delivering a construction project and could be problematic. If clients obtain their construction contact through a business acquaintance they might be satisfied with similar products that their acquaintance has, not knowing that there are different requirements, where the variety of options which might improve the outcome may be blocked.

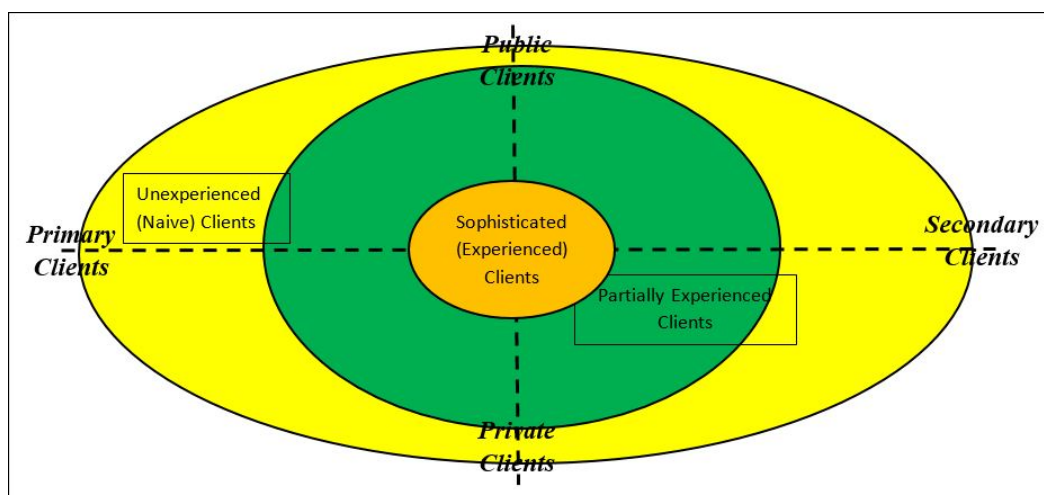


Figure 5 Construction Client Classification based on Experience, Sector and Accountability.

3.3.2 Procurement Route

A procurement route is an external factor affecting construction projects outside a project's environment. A client selects a procurement route to procure goods and/or services which acts as the platform enabling them to coordinate construction activities and exchange information between stakeholders to achieve their strategic objectives (De Blois et al., 2011). An important consideration in procuring construction projects is the need to match the client's procurement strategy with a suitable procurement route to achieve value for money (DEPR, 2012). The procurement route can interchangeably influence the project objectives and can have constraints through the setting up of suitable information routes between stakeholders and having effective communication methods between them (Emmitt & Gorse, 2006). Awuzie and McDermott (2018) argued that taking SV into consideration when selecting the procurement route can enable client organisations to achieve what they believe is SV.

Recently, public procurement used the 'aggregation of demand' approach because it offers clients bargaining power over suppliers and enables them to add value through economies of scale. Suppliers prefer clients with large pipelines of projects because of the consistency they offer and the relationship between clients and their suppliers becomes a collaborative relationship because higher volumes of work provide common objectives between them. These objectives are pursued by teams from clients and suppliers involved in the procurement and delivery process (Erridge, 2005). In addition, stakeholders with different agendas can pursue unified objectives and work together to improve their performance through a long-term relationship, which aggregation of demand offers.

Partnering agreements were designed to help public clients collaborate with suppliers to deliver construction projects. A partnering agreement was defined as a collaborative agreement between clients and suppliers to deliver a construction project through agreeing methods of work, setting mutual objectives, solving disputes, measuring performance and sharing benefits and costs. The agreement is chosen from options varying from a one-off project procurement to a long-term strategic collaboration (strategic partnering) where the former is a collaborative relationship between a client and an integrated team from the supply chains to deliver a single project after a competitive procurement exercise (OCG, 2003). The latter (strategic partnering) is the collaboration between clients and an integrated team of suppliers to deliver multiple projects procured through a framework agreement or a strategic alliance agreement over a long period of time.

Partnering agreements vary according to the duration of the agreement, contractors' selection methods and the suitability of the agreement to what is being delivered. The duration of work influences the relationship between the client and the supply chain and the relationships within the supply chain where, in short duration (one off) projects, the relationship might be adversarial whereas long term partnering, most of time, is collaborative. Accordingly, the longer the duration of partnering the better the results, especially with public procurement because of the accumulation of knowledge and the experiences of the integrated teams continuously working with each other (Emsley, 2005). Walker and Hampson (2003) studied strategic alliances in Australia and indicated that communication improved, and conflicts decreased because of the trust between partners. Also, claims and litigation, rework and safety

incidents decreased because of the early involvement of contractors in the design and planning phases. Finally, the longevity of construction and project teams to choose and develop innovative practices.

Similarly, framework agreements became a popular method of public procurement in construction since their introduction ten years ago; these agreements depend on partnering as a concept. Construction frameworks were developed under the 2004 EU Public Procurement Directive which defined them as agreements between single or multiple public bodies and suppliers with the purpose of awarding governing contracts to suppliers during a predefined duration, with quality and cost taken into consideration when awarding such contracts. These agreements are designed to comply with the EU public procurement regulations where the suppliers compete in mini competitions to win work offered by clients through the framework. Partnering agreements were implemented by local authorities, highways agencies, nuclear agencies and housing organisations in the UK. Four years is the average duration of public frameworks and, if exceeded, the agreement becomes a strategic framework (Tennant & Fernie, 2011). Framework agreements became popular in recent years because budget cuts led public clients to aggregate their demand to provide value for money even if they did not have in-house staff to deliver the work. Framework agreements share best practices among their clients and partnering contractors which benefitted clients who deliver construction projects sporadically (Terence & Keith, 2014).

In addition, in traditional procurement, public clients cannot influence suppliers beyond tier one whereas, frameworks offered clients to communicate with more suppliers because they have a collaborative relationship with main contractors which increases the popularity of frameworks. Collaboration, through frameworks, between suppliers and clients and among suppliers, reduces cost and transfers experience to more than one project. In addition, framework agreements reduce the influence of lowest cost culture on bids because suppliers were evaluated against quality more than cost because partnering contractors were already members of the frameworks making their bids less likely to have cost as their main decider to win work (Fernie & Tennant, 2013).

Framework agreements emerged during the UK's economic boom but were criticised because they were not suitable for public clients once the economic crisis occurred in 2008. They were criticised because bundling volumes of contracts and delivering them through a smaller number of contractors was not economically effective for SMEs with limited volumes of work due to the crisis. In addition, frameworks were not suitable for a stagnated economy because collaboration is only achieved when organisations are not attempting to reduce costs and because of the budget cuts and the reduction in public expenditure during the fiscal year of 2011/12, value for money, for public clients, reverted to the lowest cost culture (Terence & Keith, 2014).

3.3.3 Local Context

Local context is the economic and social state of local populations in a specific geographical area at a certain point in time. Information about the local population is important to develop a local context understanding; for instance, information about businesses, SMEs and trades

available to deliver goods and services locally is important from a procurement perspective. Additionally, information about social and economic challenges of the local population such as unemployment, the need for apprenticeships, volumes of school leavers are issues which are solved through utilising local context. On a national level, local context means the national economic status which includes local supply markets, unemployment levels (nationally), youth availability, skill shortages and the availability of strong industries which can compete internationally. Local context on a local level is similar but with fewer variations in market capabilities and social needs or challenges. Local context enabled economic added value through the procurement of goods and services (Esteves, Coyne & Moreno, 2013). Accordingly, local context influences construction projects because it provides client organisations with the understanding of local populations' economic and social challenges and local supply market capabilities which helps them in selecting suitable types of SV outcomes to deliver.

Governments, both local and central, develop policies to strategically use their expenditure, through procuring goods and services, to improve the local context and achieve local populations' best interest. For example, policies to achieve financial retention in local areas, where money spent on local projects is cycled multiple times in the local economy, improves the overall state of local context (Cabras & Mulvey, 2012). Furthermore, in rural areas the local context is controlled by public clients' and local councils' investment because they are the only deliverers of services such as health, education and construction making them local investors. Therefore, developing services delivery policies to invite outside companies into local markets, if not calculated properly, would negatively impact local companies and the local economy (Warner, 2011).

There are multiple challenges in understanding and utilising local context to serve the local population; firstly, local agencies do not understand what the local markets offer, the available trades and what local SMEs prefer where it is a cumbersome task for local agencies with limited resources to collect such data and link it to the local procurement policies. Secondly, as discussed earlier (section 2.6.3), it is difficult to measure the non-financial impact a project delivers on the local population and track local context changes. Finally, local context is continuously dynamic and can change even through a single project delivery; given that the change might not be significant, it can still affect the project to a certain level (United Nations, 2014).

Moreover, competition is a factor which should be considered, when dealing with local context, because it is not in the best interest of the local areas to deskill the projects or services being delivered in favour of local suppliers. Caldwell et al. (2005) stated that public procurers must have a clear understanding of the market dynamics and be able to intervene if the circumstances require. Local contractors which compete in providing high quality services and maintain low cost can exist in challenging circumstances and can assist as tools to create employment and economic activities; whereas, local suppliers who have guaranteed quotas without competing to win work will fail to withstand any challenges in the market unless the state intervenes to prevent insolvency (UNCTAD, 2014). Accordingly, local context provides a clear understanding of the local capabilities, in terms of what goods and services the local suppliers

provide, against the local needs and what the local population require in the form of social requirements such as employment, economic regeneration and reducing skills gaps (Warner, 2011).

3.3.4 Funding Construction Projects

Funding sources in the UK construction projects can be public, private or a mix of both where public clients choose suitable types of funding to mitigate risks impacting the projects, the procurement routes and the project outcomes (Caldwell et al., 2005). Nguyen, Ogulana & Lan (2004) argued that construction project funding sources were highly influencing project performance and outcomes, in terms of factors affecting construction projects. Because public projects fulfil population needs, improve their wellbeing and is funded through tax payers' money under public agencies' supervision, these projects are subject to constant reviews, public scrutiny and require high levels of transparency which impact how they award contracts based on a lowest cost culture with very limited tolerance (Tabish & Jha, 2011). To clarify, public procurement demands for probity may lead procurers to favour low cost and competitive tendering approaches to procure their projects rather than a better tender evaluation approach (Briscoe et al., 2004).

Nevertheless, in recent years, public project funding started transferring to private organisations where some infrastructure projects, funded by the government, received their funding from the private sector due to the public sector's budget constraints and insufficient funds and the increased need for public services leading to the introduction of private funding. Bing et al. (2005) argued that the UK government introduced Private Finance Initiatives (PFI) in 1992 to reduce the burden of delivering public goods or services on government bodies by spreading the cost across a longer duration, especially for capital intensive projects such as infrastructures. Public Private Partnerships (PPP) is a type of funding project through both private and public organisations where PPP project's revenue is created through instalment payments or users' charges as PPP projects can last between 10 and 30 years. The number of bidders for PPP projects was low because these projects were capital intensive and its contractors were responsible for designing, constructing and running the facility which influenced the choice of procurement strategy, project performance and the clients' bargaining power (Howes & Robinson, 2005).

Funding transfer from public to private had an impact on project performance where private sector funders awarded contracts different from public funders as they do not have to stand accountable for the money spent if it is better in terms of maximising profit (Howes & Robinson, 2005). In contrast, publicly funded projects awarded contracts to create local benefits and allocate work to fulfil the needs and priorities of the local population. Public clients named their local population's social needs in the project's objectives to fulfil these needs through contract sections or bespoke terms, whereas private clients were not inclined to consider SV through their projects (Macfarlane & Cook, 2003). Privately funded projects aimed at creating revenue for the funding organisations, through attracting investors, cover capital investments and operational costs and provide acceptable levels of return on investment.

3.4 Internal Factors

Internal factors are factors emerging from the internal environment of construction projects which influence evaluations, outcomes and performance of these projects. where these factors influence variables such as cost, benefits, resources, project viability, employment opportunities and revenue. Howes and Robinson (2005) claimed that internal factors have an impact on the socioeconomic benefits of construction projects. Accordingly, internal factors influencing construction projects are:

1. Design, construction and sector characteristics: These characteristics dictate if construction projects are labour intensive, if they require specialist engineering or if its sector attributes accommodate employing local SMEs;
2. Managing Suppliers and Supply chains: This factor depends on main contractors and supply chain members management and how they react to client requirements. The relationships between suppliers across all tiers influence project performance and outcomes;
3. Construction Project Cost: This factor relies on the construction cost of the project which influence the amount of work available on the project;
4. Construction Project Type: Whether the project was procured as a one-off without being attached to other projects or if the project was procured through a programme of projects. Also, whether the project is labour intensive and provides longer durations for the workforce;

The following is a detailed discussion of these internal level factors and their impacts on project performance and outcomes.

3.4.1 Design, Construction and Sector Characteristics

3.4.1.1 Design Characteristics

Howes and Robinson (2005) argued that construction project procurement; construction, maintenance and operation processes are influenced by design and construction characteristics. Design characteristics and client requirements became more complex in modern construction projects, which increased the importance of design characteristics on construction project outcomes making it important to understand the construction project design process. Hence, it is about designing a tool to accommodate different requirements of project stakeholders through combining a collection of individuals' perspectives and motivation to create a solution through building a project which fulfils their aspirations.

Design activities were classified as two types of processes; design as a creative process and design as a management process (Formoso et al., 1998). In the 'design as a creative process', designers utilise their skills to interpret the client's brief into three-dimensional designs, which are used by designers from other disciplines as the basis of their work. Perceiving stakeholders' views of a project and including them into the design process is time consuming because the designers must transform these views into design features. Designers develop, simultaneously, design options from the client brief and work on them until they name a solution which satisfies

the client's vision of the project. Clients' brief includes the architectural, environmental, social and economic requirements of the stakeholders involved in the design identification processes such as planners, local authorities, end users, direct clients and environmental agencies. The client's inability to clearly name their needs because of conflicting key stakeholders' perspectives, leave gaps in their requirements and create an incomplete project brief. Accordingly, in this process the designers and the client organisation work together to interpret and develop a complete set of requirements and interpret them into design deliverables (Gray, & Hughes, 2001).

Design as a management process, on the other hand, is where the design is spread across the project stages, from inception to operation, to managing the client expectations and interface in each stage, so that managing the design is different from the act of designing. In this process, design management is spread across seven stages: (a) inception and feasibility design, (b) outline design, (c) schematic design, (d) design for legal requirements, (e) detailed design, (f) production monitoring, and (g) feedback for operations. The design management generates value through transforming inputs into outputs with these inputs and outputs being materials, work force, time, funding and information being processed by the designers (Tzortzopoulos & Formoso, 1999). Information about clients' and key stakeholders' requirements and project constraints is collected and converted into design features in the inception stage to reduce uncertainty in the early stages of the project. Furthermore, these requirements and constraints are revisited and managed throughout the project's life cycle to reduce rework in later stages. In design management, collecting information throughout the project stages is a continuous process (Formoso et al., 1998).

Material selection is an important design decision which impacts on project outcomes and performance during construction and operations because construction materials have a 40% usage of material worldwide and a 30% to 70% share of construction project cost. Construction projects use hundreds of materials which designers compare between its physical and functional properties to decide whether these materials are suitable for their project or not. Material selection depends on their ability to enhance the project outcomes and their impact on the environmental and social sustainability outcomes of the project; for example, non-renewable materials impact the environment over the project's lifecycle. Also, materials extraction methods' negative impact on the environment can restrain designers from using them. Researchers argued that, despite construction materials' impact on the environmental sustainability outcomes of the project, they impact social sustainability outcomes as well.

Designers' investigation of a material's economic and social impact before procuring them provides a viable business case where construction materials procured locally can reduce transportation costs and boost the local economy. The recent improvement in transportation methods widened the range of materials available to use in construction projects; nevertheless, the rising importance of construction projects' social and environmental outcomes, meant that strategically procuring material became very important. To clarify, material producing larger carbon footprints, due to long transportation routes, and preventing the purchasing money from changing hands in the local market, became unacceptable. In contrast, buying locally enhanced social and environmental outcomes, because purchasing costs stayed in the local economy and

transportation emissions were reduced (Miller & Ip, 2013). Furthermore, materials' selection can create confusion for the purchasers if not planned properly based on the argument that procuring construction materials strategically should always serve the project's physical objective even if it limits the strategic impact of the project. For example, material choices might include high tech materials which are produced by specific suppliers nationwide which exclude local suppliers. Additionally, there is the example that modern materials which require less labour to process and use competes against the notion of creating more jobs. However, as mentioned earlier, it is not in the best interest of the workforce to deskill the project because of the long-term impact.

3.4.1.2 Construction Characteristics

Construction is the use of technological processes to transform inputs into outputs in the form of constructed facilities where the technology has hard components such as equipment and labour and soft components such as skills and knowledge. The increase in engineering and construction complexities and demands for shorter time to market triggered change from traditional onsite construction methods to automated construction in the form of prefabrication, preassembly and mechanisation (Wong et al., 2004). Dating back to the early 1990s prefabrication in the UK was used mainly in residential buildings but since 1999 it was recognised as a viable method to deliver other projects and crossed over to deliver civil engineering-based projects. Construction automation and offsite manufacturing offers shorter construction durations which reduce site management costs and increase revenue through early time to market. Also, improved quality, due to the factory manufacturing and quality assurance processes in prefabricated work, and finally, using economies of scale and mass production approaches reduces material waste (Lawson, Ogden & Goodier, 2014).

Nevertheless, offsite construction challenges economic and social benefits created through traditional construction where traditional construction requires a semi-skilled or un-skilled workforce (which is more available). To clarify, labour intensive construction projects or long construction durations increases employment opportunities (Howes & Robinson, 2005). In contrast, offsite relies on a skilled workforce (which is not easily located) thus resulting in the reduction of job creation where utilising automation depends on machinery and sophisticated equipment and has lower labour requirements. In addition, a short time on site means that site labour volumes are reduced significantly, which is counter intuitive to the notion of creating more jobs for the local population. In addition, buying material for off-site construction is local to the fabricator and not the construction site, causing the investment money to be utilised outside the area of development (Idoro & Bose Iro-Idoro, 2016).

3.4.1.3 Project Sector Identity

Sanvido et al. (1992) concluded that construction project performance was influenced by sector characteristics where different natures of the sector dictate how projects are delivered and managed. The HM Treasury (2013) stated that sectors influenced project life cycle considerations, where for example, schools (educational sector) have a different life cycle to that of nuclear power stations (nuclear sector). Accordingly, Howes and Robinson (2005) classified physical infrastructure construction projects based on their sector into three types:

1. Technical (economic) infrastructure projects which are long lasting networks of capital-intensive engineered structures which support economic growth indirectly, for example, public utilities (water-power-telecommunication-gas), public works (roads-bridges-dams-irrigation canals), transport (railways-airports-seaports) and sanitary facilities (sewage-solid waste collection facilities);
2. Trade infrastructure projects which are the physical entities used in directly delivering goods and services, such as factories (electronics-technologies-food products), warehouses (buildings materials' storage-general storage spaces), shops (markets-retailers-restaurants) and offices (banks-companies-lawyers-engineering firms);
3. Social infrastructure projects, which are the facilities used in delivering human and social welfare needed to raise the standards of living and improve the quality of life and human development; for example, education and cultural services (schools-universities-colleges-libraries) health and social services (hospitals-clinics-housing), sports and recreation (stadiums-playgrounds-theatres-parks) and public administration (fire stations-city halls-police stations-prisons-government buildings).

In conclusion, design, construction and sector characteristics influence construction project performance and deliverables, which include SV outcomes due to interactions they have with the local markets of the project.

3.4.2 Managing Suppliers and Supply Chains

Managing suppliers and supply chains is a factor which influences the performance of construction projects and how client organisations fulfil their vision and objectives. The management approach between clients, main contractors and lower tier suppliers influence the project's performance and the objectives fulfilment of client organisations. There are different approaches of managing the relations between clients and the suppliers was influenced by what was being delivered. The management of information, materials, and activities between the networks of organisations, through up and down stream linkages, doing activities to create value in the form of products and/or services, at less cost, and delivered to a customer is what the term 'Supply Chain Management' (SCM) was referring to. The economic recession in the late 1980s and early 1990s influenced companies into having varying relationships with their suppliers to create value and reduce cost. SCM emergence aimed at organising the delivery of parts in the manufacturing production lines to be small amounts delivered at a specific time with the objective of reducing inventories and regulating the interactions of suppliers with the production line. From a SCM perspective supply chains compete against each other rather than single organisations competing against each other (Vrijhoef & Koskela, 2000). Accordingly, in construction projects, the way resources and information are exchanged influence the client supplier and the internal supply chain relations.

Relationships between clients and main contractors were perceived as adversarial in nature, which challenged their performance, hindered progress and created claims and litigation culture. Relationships downstream the supply chain between main contractors and lower tier suppliers were also viewed as adversarial and transferred from the main contractors to the suppliers. These relations were viewed as adversarial because it was claimed that reducing cost

and improving profit by transferring risk to other parties in the supply chain resulting was the cause of it. The fragmentation in the UK construction sector which was linked to having more than 90% of organisations working in construction projects being SMEs, influenced the level of collaboration between suppliers and their clients. Cost reduction approach influenced suppliers into creating the most value for their organisations even at the expenses of others (Brensen, 2009).

In the year 2000, Vriheof and Koskela claimed that collaborative relations between supply chain members who promote knowledge sharing between buyers and suppliers on a long-term basis were suitable for high value construction projects, because these relations attempted to improve responsiveness to client requirements. Knowledge and experience, in long term collaborative relations are transferred from one project to another. In contrast, the tacit knowledge of individuals and the collective experience of project teams which include working methods and lessons learned are lost in adversarial relationships because individuals and teams do not capture them in short project durations. Finally, the capacity for loyalty and trust increases between supply chain members resulting in improved quality and reduced costs.

Brensen (2009) noted that benefits of collaborations between supply chain members were linked to quantitative results where most stakeholders involved in construction procurement focus on such as cost and time reductions. In contrast, long term collaboration qualitative benefits (such as knowledge sharing, innovation and organisational learning) occur but it is difficult to report by stakeholders because these benefits cannot be quantified or monetised easily. Accordingly, supply chain collaboration research focuses on the quantitative outcomes because qualitative benefits are difficult to capture.

Adopting a SCM approach between clients, main contractors and the lower tier suppliers this approach was criticised by multiple scholars. Morledge, Knight and Grada (2009) claimed that the level of coordination and the nature of the relationships between suppliers varies according to projects' complexity and suppliers' relations and that managing supply chains depends on the procurement route and the relationship a client chooses to have with its suppliers. Factors such as contractual relations, funding mechanisms and the exchange of information influence the formal boundaries and the softer interactions between main contractors and their suppliers. The appropriateness of these relations the client's and the project's circumstance was viewed as being influential to the client satisfaction level with the final product. Appropriateness relies on the circumstances of construction project development and how much buyers and suppliers understand these circumstances and their own capabilities (Cox & Townsend, 1998).

Despite SCM approaches being central to what was promoted by public policies and agendas about productivity and effectiveness in UK construction projects, the nature of construction projects has created a debate about managing the relations between suppliers where SCM was viewed as unsuitable to construction. The commercial transitions of construction projects accounting for 80% to 90% of projects costs was viewed theoretically as encouraging for the application for SCM approaches (Tennant & Fernie, 2010).

Nevertheless, the short-term durations of construction projects, the lack of project continuity, the fragmented nature of construction supply which nurtures the individualistic behaviour of

suppliers and which resists collaboration, and variable firm power positions instills cautiousness when attempting to apply SCM in construction projects (Cox & Ireland, 2002). SCM application in construction was criticised because it was viewed as a generic approach lacking context considerations by ignoring other factors which influence the relations between clients and suppliers. In addition, the lack of workload certainty of construction projects was viewed as opposite the requirements of SCM which requires certainty of productions to promote long term collaboration. Accordingly, contextual approaches towards managing the relations between clients and their supplier was seen as important to construction projects' performances and objectives.

3.4.3 Construction Project Cost

Construction project cost, defined here as the money invested in construction projects, affects construction project outcomes, performances and SV opportunities. Project cost depends on the capital invested in construction and design components and/or activities. Nguyen, Ogulana and Lan (2004) mentioned that categorising construction projects based on their cost vary from one context to another; for example, in Vietnam 32.5 million USD and above were very high cost projects; whereas, similar cost projects in the EU did not have the same category as very large projects making the categorisation of project cost dependent on the local context (Howes & Robinson, 2005). Payne and Turner (1999) categorised projects, according to their cost, to be major, large, medium and small projects. Major projects' costs were equal to the organisations' budget and required tailored management procedures because major projects influenced the organisation, the project performance and outcomes. Large projects costed up to one tenth of the organisation's budget and required lesser level tailoring for its management procedures but maintained a significant impact on the organisation's performance. Finally, medium projects were one tenth of large project cost and small projects were one tenth of the medium project costs with less influence on the client organisations and more traditional management procedures.

They compared the use of tailored procedures with standard procedures, applied to different project costs, and implied that tailoring management procedures based on project cost improved their performance; whereas using standard procedures for managing projects, and disregarding the variation in their costs, led to low levels of satisfaction. To clarify, organisations had different priorities for different cost projects; for example, smaller projects could not be handled with the same level of complexity of procedure developed for higher cost projects. In addition, organisations managing multiple medium cost projects distributed their resources across multiple projects; hence, selected multiple project resources management procedures. Finally, large projects distributed resources across complex sequences of activities within the project and controlled by the project management team which required bespoke procedures to eliminate any delays in resource management throughout the critical activities.

Furthermore, project cost influenced the creation of outcomes which are perceived to create value. To clarify, some high cost projects were delivered by large international design and contracting organisations because local suppliers (on national and/or local level) might not possess the knowledge or experience needed to deliver these projects. These international organisations might procure locally for generic services or hire a local workforce if required

by the client organisation or if it was economically viable. On other hand, low cost projects could provide the opportunity for local suppliers to have higher volumes of work because these projects need smaller suppliers who are available in the local market. In contrast, low cost projects might not provide opportunities for training and apprenticeships because of their short duration and smaller budgets when compared with larger projects (Warner, 2010). In conclusion, different project costs have different impacts on the project performance, outcomes and management approaches where neglecting such differences can lead to unsuccessful projects and unsatisfied clients.

3.4.4 Construction Project Type

Classifying projects as being procured through a programme of work (consisting of a series of projects) or procured as a single stand-alone project impacts on project performance and outcomes. This form of aggregating demand was mostly used to achieve benefits of supply chain management, long term relations and stakeholder collaboration which guarantee contractors a pipe line of work. Contractors can have more stable supply chains and maintain their longevity and get optimum performance, through this guaranteed pipe line of work where investments can be made without the fear of not having enough volume of work (Loader, 2010). In addition, contractors will only invest if they can calculate their return on investment (ROI) and make sure that their investments will generate revenue. Hence, the use of long-term relations with clients is a must for achieving the benefits of supply chain management. However, the use of contract bundling is not a main goal; on the contrary, it is used as a method to achieve stability between clients and contractors (Ross, 2011). Ross (2011) indicated that the sole reason of Latham's and Egan's reports was to advocate the use of integration between clients and their supply chains, build a trust-based approach to improve project performance and increase efficiency. Nevertheless, Payne and Turner (1999) argued that managing a programme of projects cannot be approached with similar procedures to those utilised for single projects, especially when the programme consists of projects with different types wherein tailored management approaches (according to the type) have more success than standardised approaches. In conclusion, Cho, Hong and Huyn (2009) and Masterman (2003) argued that project type and the construction process complexity are among the characteristics which affect project performance and its final outcomes with their impact being internal within the project.

3.5 Human Actors

Burger and Luckmann (1966) argued that the social construction of reality is the product of men and women about the ongoing actions surrounding them. When these actions are repeated frequently, patterns are cast which enable future actions to be performed in the same manner becoming what is known as habituation. Habituation actions hold their character for an individual despite the meaning becoming a form of routine in his knowledge and available for him in future actions. Habituation provides a psychological assumption that choices are narrow despite, in theory, having hundreds of ways of undertaking their action where each situation does not become a new approach. Habituation provides individuals with direction and frees them from the burdens of hundreds of ways to decide and it provides them with the time and energy that might be needed on specific occasions.

When habitualisation starts to be typified based on the type of actors who are undertaking a type of action, habitualisation becomes institutionalisation. Institutions typifies both the actors and the actions where there is an indication that action type A is performed by actor type B. Institutionalisation is based on history and control. Institutions of actions is a product of history and can be understood based on their history, whereas they can never be created spontaneously. Equally institutions have control over human actions because they provide patterns upon which the actors' conducts are based and these patterns channel a direction of actions which can go against any other theoretical direction. This control element is ingrained in institutionalisation aside from any other mechanism which would influence the institution. Human activities cannot be institutionalised unless these activities are under social control. In some instances, additional control is required if the institutionalisation is not completely successful in controlling human actions. For individuals, institutions exist with their own reality external to him/her even if the individuals do not approve of it, where they cannot evade these institutions and are influenced by the institutions' control mechanisms. When an institution passes through generations, they become historical institutions and with this history they are perceived as possessing a reality of their own where they are experienced beyond the actors representing them. Institutions harden which means that they set and maintain definitions and meanings of realities which are imposed over the individuals involved in the processes of these institutions.

Therefore, saying that certain human actions have been institutionalised is the same as saying that these actions are under social control. Institutionalisation requires legitimation which is the way it can be explained to the next generations which have not been there to understand how this institution was constructed in the first place. Because an institution's original meaning is inaccessible for new generations of individuals, there is a requirement to interpret the meaning to them.

As per the above argument, construction procurement by multiple organisations was perceived as an institution with different types of actions which require a specific type of actors to achieve shared objectives. This institution will have specific patterns or norms as to how public projects are procured, a history about how these actions are being carried out and how shared objective can be achieved. As Berger and Luckmann (1966) argued, actors in public construction procurement will have specific actions to perform which are controlled by the patterns of actions following the psychological assumption of 'choices are narrow' which habitualisation offers. The deviation of actors, which is the changes of actors from what the norms are, is triggered when the programmed institutions are detached from what their original relevance was which means actors cannot understand the history which led to the establishment of norms and patterns of actions.

Accordingly, with construction procurement being in a dynamic state but still having established relevance, there will be changes of actions from the actors but within the narrower choices of habitualisation in mind. This means that individuals will change the way they approach projects within patterns controlling how they should act. Even human agencies cannot deviate from the patterns which are established by the institutionalised construction procurement. The same can be applied to client organisations especially when they have a history in procuring projects and this history is understood by the actors. Thevendran and

Mawdesley (2004) implied that positive and negative aspects of human nature such as competition, skills, motivation, loyalty and retaliation have an impact on construction project performance. The involvement of different individuals in a construction project negotiation process can produce different decisions according to their agendas, preferences and level of trust in other individuals. Patterns of actions will control them according to their roles and the history of the institutions. For example, a project manager will oversee initiation, planning, design, execution, monitoring, controlling and closure of a project even if the actors are different and this argument can be applied to other roles in construction procurement.

Even if construction projects do not go according to plan because of the rapid advancements in economic, environmental and social requirements by the client and the diverse range of stakeholders with their own perspectives (which adds a level of uniqueness to the project) (Thevendran & Mawdesley, 2004) there is a level of expectation as to how a project will be procured and delivered by knowing the historic actions of different roles within the project. Even for new positions which can be introduced and have no previous interactions with the institutions, their actions will be socially controlled by the patterns and history of the institutions. The researcher recognised that the human agency will have an influence over the course of a project and on the creation of value based on the notion of value relying on the perceptions of individuals, but there is an understanding that this will occur under the control of known patterns of what construction projects are, independent of the actor's construction of reality. Finally, even SSM streams of inquiry, through the modelling, allows the actors to represent their perceptions of what SV is and how it can be created, but it also acknowledges that their choices would be influenced by the institutions

3.6 Stakeholder Naming & Management

Project stakeholders are individuals or organisations who bear, positively or negatively, for the duration of the project the impacts of the project's construction. Stakeholders and projects can both benefit or be harmed from interacting with each other, because helping each other achieve their goals would benefit them and hindering the achievement of each other's objectives would harm them (Winch, 2002). Construction project stakeholders include owners, end users, main and sub-contractors, service providers, financial institutions, designers, legal authorities, local populations, pressure groups, the media, legal authorities, employees and civic institutions (Freeman, 1984). Despite the diverse range of stakeholders, their expectations should be considered throughout the project planning and implementation because if some stakeholder requirements were not considered their impacts could damage the project.

Project stakeholders are an unlimited number of individuals/groups, and so if mismanaged can have a negative influence on the project, which is why understanding their attributes, behaviours and characteristics, by classifying them, result in successfully managing their expectation. Classifying construction project stakeholders is based on the context of these projects where the classification must suit the project characteristics to name influential stakeholders (Newcombe, 2003). Accordingly, Yang, Wang and Jin (2014) argued that stakeholders can be classified based on their power, legitimacy, urgency and proximity.

Stakeholder power is the ability of stakeholders to get things done. Stakeholder power has two origins; firstly, resource ownership power where the higher the amount of resources under a stakeholder's control, the more power a stakeholder has. Resource ownership powers cover different types of resources where physical power and force resources are considered coercive power. Also, financial and material resources are considered a utilitarian source of power. Secondly, social power which depends on symbolic resources such as esteem, prestige and acceptance. Social power was accepted in construction projects because construction stakeholders are powerful in the specific social context of a project.

Stakeholder Legitimacy is the assumption that actions of an entity or organisation are appropriate to a socially constructed reality of norms, values and beliefs. To clarify, there are two forms of stakeholder legitimacy, firstly, the normative legitimacy where organisations have a moral obligation to the stakeholders, such as the local population in the constituencies of a local authority. Secondly, the derivative legitimacy where stakeholder actions must be accounted for by their managers because of their influence on the project and/or on other stakeholders such as procurement, design and construction teams. Legitimate stakeholders are different from influencers because they have a stake in the project objectives. **Stakeholder Urgency** is a stakeholder whose claims or decisions impact the project at a certain point in time where the stakeholders' impacts are on time related elements such as resource availability, political influence and project agenda. Stakeholder urgency is influenced by short term economic impacts and long-term sustainability. **Stakeholder Proximity** is the stakeholders within a space or time proximity to a project through the physical sharing of an organisation or the duration of an organisation.

Furthermore, Chinyio and Olomolaiye (2010) argued that despite the wide range of linear stakeholder classifications, there are methods to incorporate multiple classes within these classifications and thus stakeholders can be known in the form of matrices. They added that stakeholders can fall within two types within a construction project; the first are members of the project's temporary organisation, or who provide finance and thus are essential for the project's survival. The second type are the stakeholders who are influenced by the project during any time of the project from inception to demolition, but this type of stakeholder might not be significant to the survival of the project. Among the second type of stakeholders, some can disrupt projects through their political conduct and actions (power). Also, in some cases, some stakeholders can fall into both types, whereby they might be members in the project organisation and also be perceived as a pressure group. Stakeholder classification is based on both their power and their interest in project delivery and results.

The matrix presented in Figure 6 shows, in the top right quadrant, that if a stakeholder's power and interest in a project are high then this stakeholder should be closely monitored and managed to reduce project interruption. Examples of this kind of stakeholder are main contractors, direct clients, business units, designers and consultants. On the other hand, in the top left quadrant showing high power and low interest, this type of stakeholder should be kept satisfied at all times because they might harm the project due their high power, but they will not undertake to look at the project in any detail. This second quadrant can include government (local and central), end users and some pressure groups. In the lower right quadrant fall stakeholders of

low power and high interest who should be monitored and approached when needed. This type of stakeholder can be local communities for whom projects are constructed; where they might be interested in the project for opportunities for local jobs and the local economy but cannot influence the project decisions due to them being external stakeholders. Finally, the fourth quadrant are the stakeholders with low power and low interest in the project who should be kept informed of the project progress in order that they might not have their interest level increased in a negative way (Chinyio & Olomolaiye, 2010).

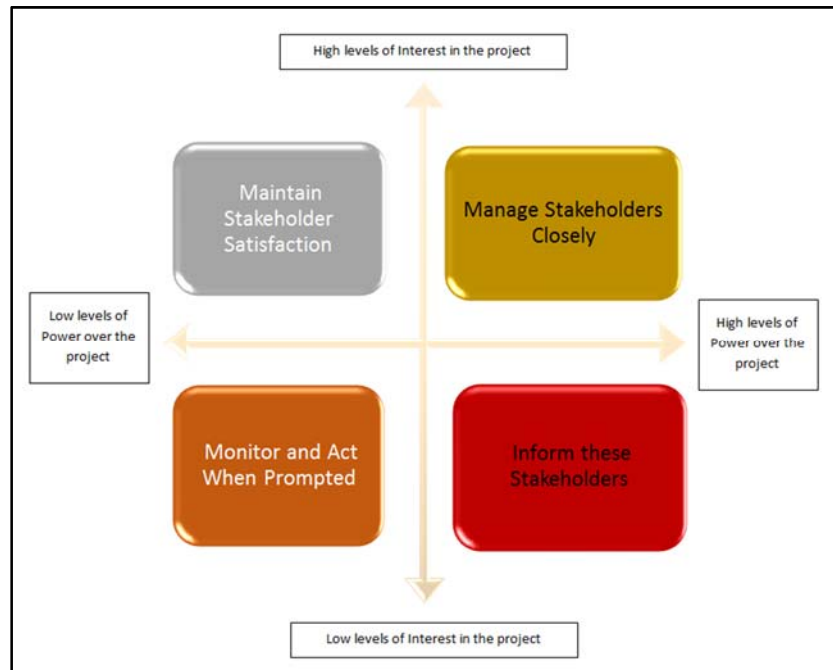


Figure 6 Stakeholder classification matrix (Source: Chinyio & Olomolaiye, 2010)

Accordingly, this research will name stakeholders as per the matrix above where they will be classified based on their interest and power in a project in addition to naming the type of power and legitimacy these stakeholders have.

3.7 Initial Propositions

To accommodate the research questions, the following propositions are made, based on the researcher's information and the literature review. These propositions have a logical pattern to guide researchers to name relevant information which is a known process in social science and management research (Yin, 2009). Propositions guide researchers through large data amounts, collected in the field through suggesting relationships between different factors and illuminating areas which require examination (Blismas et al., 2004). Accordingly, through reviewing SV, strategic procurement and the factors influencing construction project's internal and external environments, the researcher developed a set of initial propositions about SV in the UK construction context. The initial propositions of this research are:

1. Client organisations are sponsors and leaders in construction projects procurement and their perspective about SV is significant to what outcomes are delivered and how it is pursued.

2. Client organisations, main contractors, subcontractors and local communities are the key stakeholders influencing how SV is perceived, thus understanding the stakeholders' roles and decisions in the project is important.
3. Construction projects face three challenges to create SV through construction projects' procurement from the perspectives of the stakeholders.
4. A construction project is perceived as a system with factors influencing its external and internal environment such as size, type and design characteristics (internal) and finance, client type, procurement route and local context (External). These factors influence decisions about SV in the construction project.
5. Due to the complex nature of procuring construction projects a systems approach to the problem is suitable to investigate the phenomenon.
6. Outcomes with soft nature in the UK context have a socio-economic nature because client organisations are public organisations with the wellbeing of their local communities being the top of their priorities.

3.8 Chapter Summary

This chapter has investigated the SV problematic situation and provided an insight of construction projects from a system's perspective about their external and internal environments. External and internal factors are understood to influence projects' performance and their deliverables which includes the soft outcomes which can create value. These factors are used in the research as the case study selection criteria discussed in chapter five. In addition, the stakeholder literature was reviewed to ensure that the key stakeholders who influence SV are named where naming them provides the researcher with an insight about who to approach in the data collection and investigation. Finally, propositions about the research were produced to be examined further in the research.

Chapter 4 Justification of the Research Philosophical Components

4.1 Chapter Introduction

In the preceding chapters there has been a thorough analysis of the two dominant aspects, SV and the influence of construction projects' procurement on SV. Through this, the two overarching themes within this work were outlined and an appropriate foundation for the following chapters was provided. However, these chapters primarily concern the concepts under investigation within this work. To provide for a feasible theory, the research methodological stance needs closer investigation and analysis as well. Only with a well-informed choice for a methodological stance, can the following chapters be set in an appropriate context. This analysis is provided in the chapter at hand. In the course of this chapter, a close investigation of different potential research strategies will be presented, providing the background on the theoretical discussion on, and the selection of, a specific strategy. The chapter contains the following aspects:

1. Philosophical rational
2. Research methodology
3. Epistemology
4. Research approach
5. Research strategy
6. Data collection methods
7. Chapter summary

By the end of this chapter, the philosophical rational, elements and data collection methods appropriate for the research at hand will have been presented and justified against other potential research strategies.

4.2 Philosophical Rational

Alvesson & Sköldbberg (2009, P1) defined research as “*the creation of true, objective knowledge, following a scientific method*” thus, research activities are executed in a systematic way to investigate an issue to increase knowledge. Research is, therefore, the advancement of existing knowledge through understanding, studying, comparing and examining when naming a solution to a problem (Kothari, 2004). Researchers are often confused because there are plenty of approaches to answer their research questions; therefore, the research theoretical decisions, data collection tools and analysis methods must be based on a systematic logical approach (Blaikie, 2010). Successful academic research can follow a multi-stage strategy where the number of stages varies from one research to another. Accordingly, research plans assist researchers in answering the research questions and help select research philosophical elements (philosophy - epistemology - approach - methodology - strategy) and justify their choices. Using research plans enables researchers to develop theoretical frameworks and

suitable structures to organise their research from inception to completion (Saunders, Lewis & Thornhill, 2009).

4.2.1 The Research Onion

Philosophical elements of a study are selected through two approaches, which were assessed by the researcher to decide their suitability for this study, through comparing advantages and disadvantages of both approaches. Firstly, the researcher examined the research ‘onion’ which Saunders, Lewis and Thornhill (2009) developed and defined as the progressive stages a researcher follow to develop a successful research where each layer of the onion, representing a philosophical element, is known before moving to deeper layers in the onion. The naming of philosophical elements narrows the scope and logically links of these elements. As shown in Figure 7, the onion consists of six layers which are peeled to reach deeper layers representing the philosophical elements.

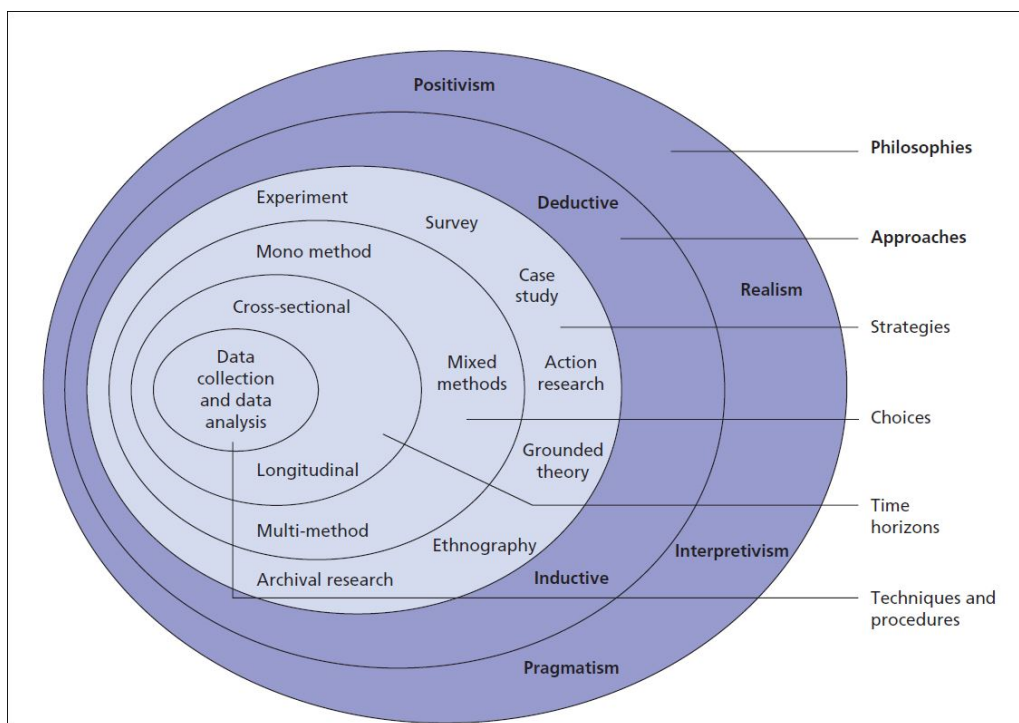


Figure 7 The Research Onion (Source: Saunders, Lewis & Thornhill, 2009)

The onion’s first layer is research philosophy which lies between positivism and interpretivism. The second layer is the research approach, which varies between deductive, inductive and abductive. The third layer represents the research strategies (defined as research methods by other authors) which varies between case studies and experiments. The fourth layer represents, the data collection methods which can be a mixed methods approach, a mono methods approach, and a multi method approach. The fifth layer represents the time horizon of the research, which can be longitudinal or cross sectional. The last layer shows the techniques used for data collection and analysis.

The research onion’s advantage is the organised sequential process of naming element after element by peeling the onion, so that a researcher cannot work on deeper layers until the previous were defined giving it a known start (defining the research philosophy) and end (data

techniques). Conversely, the research onion reduces the ability of the researcher to make changes once a few layers have been known. Knox (2004) argued that, once the philosophical choices are made, they cannot be changed and only the methodological choices can change. He added that the onion was rigid because a researcher cannot easily change any philosophical elements in further stages of the research.

4.2.2 Non-Sequential Approach

The second approach was developed by Crotty (1998) who indicated that researchers can choose the philosophical elements without a specific order if these choices are based on the researcher's perspectives about the phenomenon being investigated, which mature as the research progresses. Throughout the research development, elements develop to support the initial choice wherein there is no specific order to the start of the research. For example, a researcher can choose the methodology before the philosophy and the approach because it is suitable for the phenomenon being investigated and then the researcher can decide on a philosophy and an approach to support this methodology. Figure 8 shows how research elements inform each other where the link between them is led by the justification between each other. Despite relations between epistemology, theoretical perspective, methodology and methods running in both directions (up and down) researchers can start making their decisions from any point suitable.

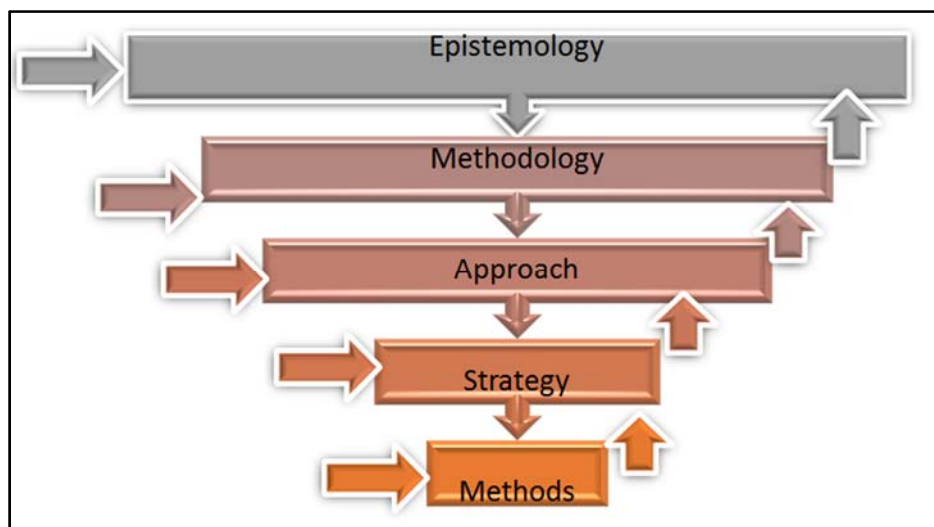


Figure 8 Research Philosophical Elements (Based on Crotty, 1998)

The advantage of Crotty's approach is that researchers can approach their research flexibly from any suitable point without having a predefined starting point, based on the research circumstances and build their justifications for research philosophical elements. In addition, researchers can amend their research decisions if the investigation circumstances change. Accordingly, after reviewing both approaches the researcher decided to follow Crotty's approach in naming the philosophical elements because it suits the investigated phenomenon. To clarify, SV is a soft, unquantifiable and poorly defined phenomenon which dictated the selection of the methodology to accommodate SV situation ambiguity which the researcher depicted in Soft System Methodology (SSM). As a result, the research methodology was

chosen first and then the philosophical paradigms, the research strategy, the research epistemology, and the methods followed to accommodate the research methodology.

Different authors have different definitions for philosophical elements which confuse researchers; for instance, Blaikie (2010) defined research approaches as the deductive, inductive and abductive stances however, Saunders, Lewis & Thornhill (2009) described the approach as research procedure from an operational point of view such as case studies and action research. Therefore, the researcher defined each element at the outset of each section.

4.3 Research Methodology

Kothari (2004)'s and Saunders, Lewis and Thornhill (2009)'s defined research methodology as the science of methods. Research methodologies have either a scientific or a systems' outlook, on what they investigate, which were rivals historically, because of their views on knowledge creation and on social events. In science, Hippocrates developed the initial empirical science based on his medical profession where empiricism as a scientific principle focused on patient observation and generalised based on experiences without any dependency on unverified facts or prior speculations (Checkland, 1999). On the other hand, the systems outlook emerged when individuals started perceiving themselves as creatures in a chaotic world which they could not organise, and then ancient Greeks perceived in systems thinking a way of organising their world where their thoughts and actions could give them control over their lives. During the scientific revolution of the sixteenth and seventeenth century describing the world via mathematical laws replaced Aristotle's concept of perceiving events as parts of a universal whole but never eliminated it because holism was always a fact of observation which emerges whenever someone looked at his/her surroundings to proclaim systems (varying from large systems such as ecological systems, a non-physical system such as a social phenomenon, or a small system such as the atom) (Skyttner, 2005). The following section reviews both methodological approaches to investigate which is more suitable for the research subject at hand.

4.3.1 Scientific Approach

During the Renaissance period in the sixteenth and seventeenth century, natural science emerged as the basis of scientific methodologies describing natural phenomena (acquiring knowledge) through observation and empirical evidence. Educated men replaced guessing and debatable interpretation of results with repeatable observations through the iteration of experiments and methodical analysis where, respect for fact creation through experiments increased and became a preferred way to communicate knowledge and opinions. Factors affecting events directly were considered and their description replaced their explanations because viewing the world through natural and mathematical laws replaced the systems perspective of the world (Skyttner, 2005). Science methodologies broke down any problem, as small as possible, into its smaller components to reduce problem complexity because smaller components perform their tasks in the same way when broken from the bigger unit. This assumption created component classification frameworks to investigate and solve the problems where it was easy to isolate the factors affecting the studied phenomenon and deal with them independently from their natural context and expect to have the same results and justifications. For example, investigating heat transmission in a laboratory yields the same explanations if it

were investigated in natural situations; therefore, separating the components from their natural context does not distort results in natural science.

In natural science, knowledge is built via hypotheses, which prove or refute the knowledge added through experimenting and describing the research actions by minimizing real world complexities in experiments and validating the established results through repeating them (Checkland, 1999). This science outlook treated the world as a gigantic machine with events and processes being causal, linear and predictable and the properties of any phenomenon are perceived as quantitative. For example, physics focuses on the atom, its mass and energy, the cell as a living organism, and linguistics becomes the basic elements of sound. Accordingly, the scientific outlook characteristics are summed up below as:

1. The world is viewed as smaller elements with minimal emphasis on their surrounding environment where the surrounding environment is considered irrelevant because it follows the laboratory concept of controlling the surroundings of the phenomenon being studied.
2. Tools (such as microscopes or telescopes) in scientific outlooks are used to zoom in on single objects and examine multiple hypotheses to deduce an approximate answer in this approach.
3. Scientific outlook analysis: (A) is in physical contexts, (B) study the behaviours and the properties of smaller parts, (C) form the properties of the parts and deduce conclusions.
4. Scientific experiments control the investigation process to logically prove that the obtained results are the consequence of the researcher's planned actions.

Actions in the scientific outlook, to investigate problems, are: to understand (reduce the complexity of the problem through its breakdown), to describe (hypothesis development), to control and predict (achieve replication), to explain (result deduction and hypothesis rejection or acceptance) and finally, to prescribe a solution for a problem (Skyttner, 2005). Scientific methodologies succeeded in physics and technology disciplines because they reviewed relations between no more than two variables in controlled circumstances; however, scientific methodologies struggled to deal with higher numbers of variables and complex types of relations, often thought of in social disciplines, because it was cumbersome to isolate and replicate complex social relations (Bertalanffy, 1972).

Reducing social phenomena into isolated structures failed because the relations between elements created the investigated problem and challenged the concept of repeatability. A scientific outlook in social science was inappropriate, as to investigate social phenomenon using the three patterns of reductionism, repeatability and refutation collapsed facing extreme complexities of variables. Choosing a theory, isolating a social phenomenon from its external environment and deducing results from a single point of view could not satisfy different perspectives about the social phenomenon. When analysing human beings, their beliefs, actions and behaviours could not be copied from one individual to another as in the natural science approach. For example, two atoms of a certain material have the same exact characteristics but two individuals from a single social group do not have the same behaviours, actions and beliefs on a topic (Checkland, 1999). In social problems, using the natural science approach of breaking down components into smaller components of the social reality delivers non-

informative conclusions because they could not review the problems' context and historical events (Verschuren, 2001). Finally, since the beginning of this century, systems thinking, as a methodology, emerged to deal with complex situations because of its advantages and the limitations of the natural science approach when explaining complex social phenomena.

4.3.2 Systems Approach

A system is “*a set of interacting units or elements that forms an integrated whole intended to perform some function*” (Skyttner, 2005, p 57) thus a superior unit with unique characteristics is formed from smaller units and each unit has independent characteristics. Smaller units are the subsystems and the superior units are the system, where the systems purpose depends on the collective ability of its subsystems. Understanding how subsystems work begins with the depiction of the system and then understanding and analysing how this system works and the relations between the sub-systems, which is known as synthesis. Contrary to the scientific outlook, which breaks down a unit into smaller units, synthesis explains how smaller components and the whole system function. Synthesis looks out of a unit, its function and behaviour whereas analysis investigates units, statics and structures; therefore, synthesis provides explanations for the behaviours and properties of the unit within the systems and as part of it (Skyttner, 2005). Accordingly, systems thinking is a concept in which individuals can organise their thoughts about the real world and undertake their everyday decision-making in a constantly changing world (Checkland, 1999). From a systems outlook, the world is mentally structured as the whole that consists of smaller units linked together to form a system where the *raison d'etre* of a system is what it is perceived to do. A systems perspective of a phenomenon in the world forms an abstraction and focuses on structural and functional aspects of that phenomenon.

Hence, systems thinking is about having a holistic view about everything or seeing a bigger picture of everything using the concept of the whole as envisaged in the term ‘system’ (which is opposite to natural science). To clarify, actions and thoughts are organised according to a systems concept to cover and discuss multiple areas that span over a combination of two or more subjects making it an overarching discipline. Systems thinking in research provides a framework to understand a specific phenomenon through viewing the internal and external relationships between the phenomenon, its surroundings and how they influence each other, where the human perspective drives the system creation. The difference between the scientific linear cause and effect outlook and the systems outlook is that in systems a change happens anywhere in the system and can be tracked as a cause and an effect at the same time, where a change could be a cause of an event in a subsystem and, at the same time, influence another subsystem (Espejo, 1994).

Skyttner (2005) argued that because science became more specialized, the need for a uniting principle appeared to understand how the sum of sciences integrate. Management research is transdisciplinary, meaning that it uses knowledge from multiple disciplines and exceeds the sum of the parts of different disciplines, because an in-depth understanding of management issues and their solutions cannot occur through independent disciplines (Saunders, Lewis & Thornhill, 2009). The modern-day systems theory evolved through the medieval thinker, Nicholas of Cusa, who introduced the notion of opposition where parts fight among each other

within a whole, but these parts still comprise a united form of higher order. Through viewing the phenomenon from a systems approach, researchers understand the interaction between the problem's different parts and consider the variables affecting these parts within the phenomenon's natural context (Checkland & Scholes, 1999).

4.3.2.1 Emergence and Hierarchy

Systems' thinking is based on "emergence and hierarchy" and "communication and control" concepts where users achieve their objectives in an organised manner and not a chaotic manner. The emergence concept is defined as "The whole is more than the sum of its parts" (Bertalanffy, 1972, P. 407) where the whole is the unification of very close parts and these parts affect each other. This unification does not destroy or eliminate the properties of the parts, but it adds up to create new properties for the whole, where their actions and functionalities are united together.

The hierarchy concept emerged during the microscope discovery, because microscopes implied that living organisms are higher level systems whereas organs, cells, organelles and molecules are lower hierarchy systems, where living organisms have systems characteristics and the smaller organs are its subsystem. Thus, systems hierarchy should be clearly understood because this affects the level of complexity of the system where systems in a certain level are less complex than systems in a higher level in the hierarchy. In systems' hierarchy, each level has similar characteristics, but these characteristics change from one level to another, where characteristics of one level does not bear meaning in higher or lower levels (Checkland, 1999).

Systems are classified based on a diverse range of characteristics:

1. There are open and closed systems, with open systems exchanging information, energy and material with the environment surrounding the system. In contrast, closed systems exchange data, energy and matter only within the system itself, without any interactions with the external environment.
2. A systems environment is the higher system in the hierarchy which falls outside the control of the system but can influence its behaviour. An open system exchanges information, material, energy and matter with its immediate environment where several processes regulate communication and control of the system.
3. A systems boundary is the line differentiating the external and internal environments, where the external environment is outside this line and the internal environment is inside the line. When information is exchanged between the system and its environment, a coding and decoding process exists where information is transformed to suit the system (Skyttner, 2005).

4.3.2.2 Communication and Control

Systems control is an internal function, which is enforced by its higher-level system (the environment) to ensure that the system achieves its objective. There are controllers in every aspect of the system which could be visible or invisible but can be detected through analysing the behaviour of the system. For example, the genetic process has chemicals to instruct activation or repression of reactions which is the control processes to an organism

development. In addition, communication processes exchange information, with its environment, to maintain an open system in a hierarchy where the communication process supports the systems controlled. The information exchanged through the systems hierarchy instructs the subsystems to do actions to survive, these changes are triggered by the external environment. Systems information (in the form of instruction or constraints) is a tool to apply control but having information without using it when the system is stimulated from an external factor is meaningless (Beer, 1995).

There are various types of systems: natural, physical and mental systems, for example, natural systems have the universe and its characteristics as their origins. Natural systems can be represented on a large spectrum of natural structures based on science and complexity varying from atomic nuclei to the solar system. Natural systems exist in levels where systems, such as the human body, include (on the lower levels) the skeletal system and the blood circulation system. Secondly, there are manmade (designed) physical systems which are designed to fulfil a physical need of mankind as its purpose, for example, road networks or rail systems which are subsystems of a transportation system. Thirdly, there are designed abstract systems (mental) which are like manmade systems but represent the human mind, such as service and organisational systems.

Human actions create a less apparent type of system, than natural or designed systems, because these systems consist of the structures and hierarchies of human activities though the principles of coherency where these systems are called human activity systems. Humans taking part in these systems might or might not be aware of the occurrence of, their participation in and the mission of, and structure of these systems. Human Activity Systems (HASs) are associated with designed physical systems; for example, a set of human activities to deliver a physical transport system have the activities needed to deliver a HAS with the same purpose. Human consciousness is what makes the difference between HASs and natural systems and has a significant consequence on the way HASs are perceived. The human action of reading the numbers of a clock is a purposeful action, whereas purposive means serving a purpose which might be associated with physical systems (Checkland, 1999).

4.3.2.3 Justification of Systems Methodology for this Study

In the subchapters above both the scientific and the systems approach have been reviewed thoroughly to come to a well-founded understanding of both concepts. In the course of this examination it became apparent that the scientific approach is highly unsuitable for the research at hand because it fails to grasp the subject of examination. SV in construction projects is perceived as a system with variables externally and internally, which need to be incorporated in the investigation; all characteristics that the system methodology offered. The context of SV can be understood from a systems perspective because of the different behaviours and performance of units and elements within the creation of value, to be understood as part of a total picture. In addition, Magis and Shinn (2009) argued that sustainability follows a systems approach where the society (community), the environment and the economy are the components of a system where they should function properly, following a systems mechanism for the system to remain viable.

The System's analogy was used to overcome the problem of fragmentation in the construction sector, where independent elements could never create a system; therefore, the relations between the research elements must be established with different stakeholders, such as public clients, contractors, supply chains, policy makers and communities. All of these can be systems and subsystems of which the purpose can be to benefit communities through SVs. Attributes of construction procurement, such as procurement routes, design and construction characteristics, supply chain management and client classification are accounted for when adopting a systems approach. Finally, it was viewed by the researcher that designing a systems model would help in the current chaotic situation of SV, thus assisting in the understanding of the problem, in generating solutions and discussing the feasibility of the proposed solution.

4.3.2.4 Comparing Hard and Soft Systems Thinking

Systems thinking offer multiple approaches to view and organise the world via a wide range of methods and theoretical schools, where individuals make choices to reduce confusion according to their objectives. Hard and soft systems are two types of systems thinking approaches utilised to solve problems and produce solutions. Both terms were recognised within the computing and information systems field, following Peter Checkland's book in 1981, where in computing science, soft systems were more recognised than hard systems (Ovaska, 2005). In hard system thinking, specific goals are clearly defined at the outset of a well-defined problem and solving the problem is achieved through naming the most suitable system to achieve the specified goals. Accordingly, the hard systems approach deals with two clearly defined and established points which are the current state to start from and the objective at the end to achieve. System engineering and system analysis are hard systems, which introduced systematic rationality when attempting to deal with a problem through its structure where users can choose from different alternatives to reach the defined objective. Winter and Checkland (2003) reviewed Project Management Institute (PMI) publications and concluded that project management theories, in the last 30 years, were based on hard systems thinking. Nevertheless, project management neglected the soft issues of project management and the different views about these soft issues. Yet, hard systems thinking was the dominating theoretical background in project management.

In hard systems, the term 'project' refers to the production of a product, system or a facility which requires something to be produced, engineered or created against a time scale. A product brief is formulated at the beginning of the production process where the justifications of the project are given in a few sentences. The project brief is transformed into detailed requirements which might require designed systems to achieve. Then, different solutions, in the form of systems, are developed as options to achieve the detailed objectives. This is followed by the systems selection phase which investigates and selects a specific system from the available systems options. The process moves to a system development phase where the system chosen gets fully developed and detailed to deal with the problem and, finally, there is the engineering phase where monitoring, feedback and modifying activities are added to the system when operational. Thus, hard systems thinking users can successfully choose from different alternatives to achieve their well-defined and set objectives using systems tools and techniques (Checkland, 1999; Winter & Checkland, 2003; Wilson, 2001).

Nevertheless, in the 1990s, individuals and groups expressed unease after facing unstructured problems they could not define or solve despite them using hard systems processes. Checkland & Scholes (1999) gave an example about delivering an information system as ‘being operationally useful’ as the objective of the hard systems approach. They stated that having a vague problem definition forced researchers to develop requirements to satisfy the defined problem which was achievable through the hard systems processes, but neglected opportunities to construct better answers to the problem. Having to fit the problem within the hard system procedure eliminated influential factors which could not be properly embedded. It was seen that there are different project situations where the ‘what to do’ and the ‘how to do it’ elements influence the approach towards the projects.

Figure 9 shows what Winter and Checkland (2003) argued: that there are four types of project situation which vary based on knowing ‘what to do’ and ‘how to do it’ depending on goals, methods of delivery, and whether they are known or unknown. The first type is a ‘painting by numbers’ situation where the method of delivery and goals are clear, which is a straightforward project situation because they have been done before and the methods can easily be copied. The second type is a ‘quest’ situation where goals are clear, but methods are unclear, which is challenging in the problem situation. Some engineering projects have problematic routes to take or these routes are not easily known because the path is unknown. Hard systems can be utilised to deliver projects from both types of situation because the objectives are clear enough to apply hard systems processes. The third type is the ‘movie’ situation because it includes projects with a clear path but unclear objectives, for example, a cinematic production company may know how to record but is unsure of the next project. The final type is the ‘lost in the fog’ situation because projects have unclear objectives and methods making the whole situation vague. Neighbourhood regeneration projects are among the projects which lie within this type, because knowing what to deliver and how to deliver it, is missing. Type three and four are where hard systems fail and the soft systems succeed and can be utilised to manage the situation.

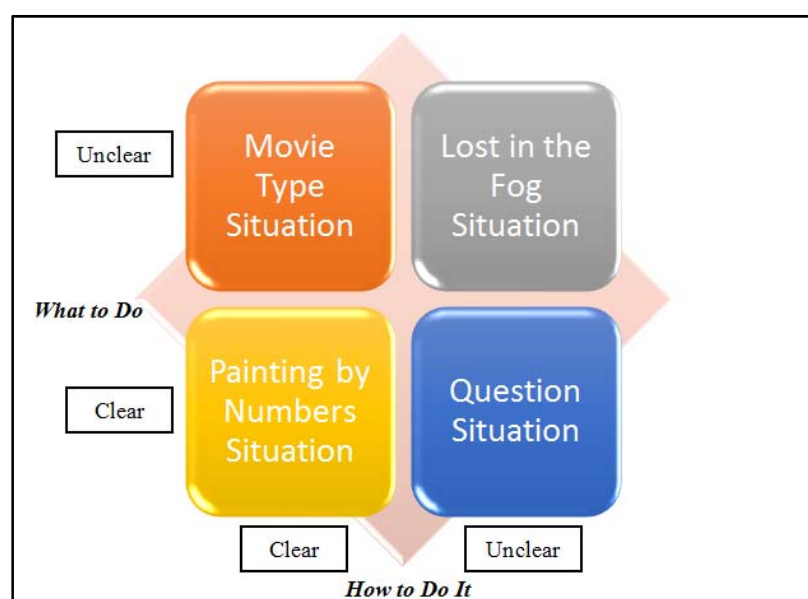


Figure 9 Different types of project situation (Source: Winter & Checkland, 2003)

Soft systems thinking deals with a changing flow of chaotic situations which hard systems cannot deal with. Soft systems thinking was developed to investigate unclear problem situations (with messy incidents) using systems concepts to enquire about problem situations rather than using them to produce solutions. Stakeholders within the problem situations sense the need to improve despite lacking a clear definition (Checkland & Scholes, 1999). Soft systems thinking tolerates approximation, imprecision, partial truth and uncertainty more than hard systems because it utilises and traces the above disadvantages to realize a traceable and robust solution (Skyttner, 2005). Knowledge in a soft systems approach is socially constructed because it depends on the perception of human actors. Soft systems use systems concepts to formulate logical explanations and to improve common understandings for a certain group of individuals about their problem situation and how they approach it. This happens through people's (multiple) points of view to create the problem's cultural formulation following systems concepts. Humans understanding of the world develop ideas to change the reality of this world through a cycle which starts from perceiving initial views of the problem situation to the development of a comprehensive action to improve this reality (Leonard & Beer, 1994). Table 4 compares hard and soft systems thinking in five different characteristics.

Assumption	Hard Systems Thinking	Soft Systems Thinking
Definition of problem	Well defined problem statement	Problems are poorly defined and messy
Perceiving the problem	Objective view of the problem definition	Different stakeholders' perspectives about the problem situation
Factors affecting the investigation process	Technical factors affect the problem	Human thoughts are important
Governance of the structure	Strong structure approach to the problem	Looser structure of inquiry
Outcome	An ideal model to deliver the solution	Improvement to the problem situation as outcomes

Table 4 Comparison between soft and hard systems thinking

Checkland (1999) argued that most management problems in public policy are not clearly formulated enough in order to use hard systems, therefore soft systems are more suitable for the unclear problem. Accordingly, Soft System Methodology (SSM) was suitable to investigate the ability of publicly procured projects to create SV from different perspectives because SV is embedded in complex contexts. The below section provides a detailed discussion about soft systems methodology from the literature, the criticism of it and why it was suitable for this research.

4.3.3 Soft Systems Methodology

Checkland and Scholes (1999, P47) stated *“to manage anything in everyday life is to try to cope with a flux of interacting events and ideas which unroll through time”*. Therefore, to manage a messy situation involving everyday events triggered by different sources, its surrounding events should be considered. Hence, to investigate SV in the UK construction market, stakeholders' perspectives, influences and perceptions of reality should be captured where the researcher can fully understand the situation. Poorly defined SV is the cause of

unclear definitions, lack of guiding procedures and inability to track it, thus requiring a methodology which can deal with this ill-defined situation. The researcher chose Soft Systems Methodology (SSM) because it was developed as a response to soft, ill-defined issues with multiple socially constructed realities which are difficult to solve and are more difficult to define. SSM is a methodology aiming to achieve improvement in problem situations through using a system concept to investigate social issues and interact with the situation's stakeholders, in a learning cycle. This cycle starts with developing users' perceptions about the situation's reality, developing actions and implementing them in the real world and to continue this cycle until users are satisfied with the results.

Social constructionism is the epistemology supporting SSM; Crotty (1998, P 42) stated that: *"all knowledge, and therefore all meaningful reality as such, is contingent upon human beings and their world, and is developed and transmitted within an essentially social context"*. Hence, in SSM, reality is formed by social actors (individuals, collective groups or organisations acting under their own free will) and the limitations of social structures, (the structures which limit the social actor's decisions). In social constructionism, producing knowledge is based on views about humans' interactions with their surroundings and is transmitted through the social context which these humans build. To clarify, meanings are constructed, not discovered, by human beings because as they engage with the world, they are interpreting reality (includes objects) where the interpretation process requires a mind to interpret and understand this interpretation. Similarly, SV has different realities because it may be viewed by clients as an engine of growth, by contractors as a profit opportunity and by local communities as an opportunity provider, which justifies using SSM for this research.

SSM solves problem situations by using systems modelling as a reality interrogation device, which develops improvements despite stakeholders' conflicting perceptions. SSM consists of seven steps (reviewed in the next two sections) to understand the problem situation through building a pictorial representation of it, and then modelling several human activity systems (HASs) relevant to the problem situation which represent different perspectives about the situation. These models develop multiple solutions, trigger discussions among stakeholders and provide them with consensus about the changes needed to improve the problem situation and examine whether the changes are feasible or not (Wilson, 2001). Because the problem situation is part of human history, SSM first learns about the situation's history from different perspectives of different stakeholders. To achieve that, individuals, interested in improving the problem situation are named because of their role in developing solutions. Following the introduction of the history and selecting the improvers, two separate streams of structured inquiry are navigated by the improvers to develop and implement interventions. The logic-based and cultural streams of inquiry use the systems concept to model stakeholders' purposeful actions to solve the problem.

The logic-based stream of inquiry consists of HASs purposeful models developed to illuminate and question the problem situation through comparing these models with real world situations in a logical manner, where this comparison creates debate about change and improvement from different perspectives. The logic-based stream is not the only way to inquire about the situation because human affairs must be included in the processes of inquiry. Accordingly, the cultural

stream of inquiry humanises the nature of the inquiry and provides a softer perception of the problem. It consists of three investigative phases, firstly, to investigate the intervention; secondly, to analyse the problem situation as a social system and, finally, to analyse the problem situation as a political system. Both streams interact with each other and exchange perceptions about the situation. Where the HAS models, in the logic-based stream, are relevant to the people interacting with the problem who inform the environment of the culture stream of inquiry. Figure 10 shows how the two streams interact simultaneously, and these are discussed in detail below.

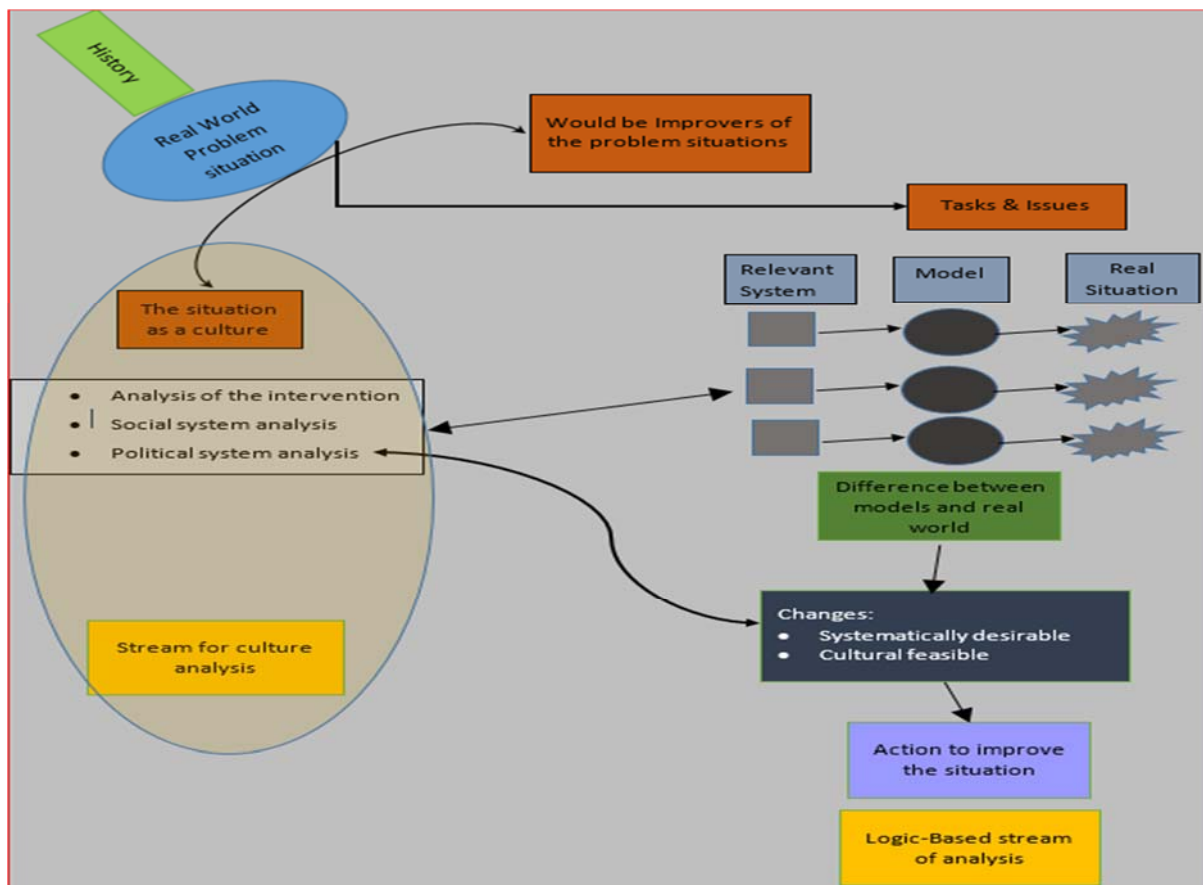


Figure 10 Logic based and cultural streams of inquiry (Source: Checkland & Scholes, 1999)

4.3.3.1 Logic Based Stream of Inquiry

The logic-based stream of inquiry, on the right-hand side of Figure 10 is the process of developing and modelling purposeful Human Activity Systems' (HAS) models to illuminate the problem situation, include individuals' tacit knowledge and to produce solutions through comparing HAS models with real world situations (Checkland & Scholes, 1999). Organisations cannot be treated similarly because their characteristics are different and cannot be replicated; however, actions of individuals from different organisations are purposeful, not random, which is common between organisations no matter how different their purposes are. To clarify, individuals in any organisation have purposes to achieve and these purposes are different from one individual to another, hence, developing HAS models is a representation of these individuals' purposeful activities. These models describe ways of thinking about the reality from individuals' perspectives and do not describe reality because there is no single dimension

of reality making these models an intellectual construct to investigate the problem situation (Wilson, 2001). The model building process consists of the following stages:

Selecting Relevant Systems: researchers develop Human Activity Systems based on subjective decisions to navigate through the problem situation and make decisions to develop the relevant systems. Researchers who deal with complicated situations in humanitarian disciplines are better at making these subjective decisions than researchers of science and management disciplines. Researchers make initial choices to name the relevant human activity systems based on the available information about the situation where these choices are intuitive and fall within hard systems self-evident choices. Relevant systems are chosen from a wide spectrum of purposeful activities and at its extreme ends are: firstly, 'primary task systems' which model activities and objectives from an organisational structure perspective. For example, primary tasks models in projects are based on the project's mission statement and reflect organisational functionality. Primary task models for production departments model the conversion of raw materials into products, so they relate to hard systems because they model quantitative organisational objectives (Wilson, 2001). At the opposite end of relevant systems choices models are 'issue-based systems' which represent activities that do not need to be institutionalised and are not linked to organisational functions or structures. Issue based systems can model roles, responsibilities and decision-making processes which are issues raised by stakeholders and the would-be improvers. These systems are hardly located in an organisational map and have only temporary relevance because they are based on the perspective of the system creator and the people involved with the situation (Checkland & Scholes, 1999). Primary task systems represent permanent institutional structure (that exists with the organisation) whereas; issues-based systems represent temporary mental processes (that exist with the problem situation) that cannot exist in the real world and both choices of systems are needed to open the situation for debate (Wilson, 1993).

Defining (Naming) Relevant Systems: This naming process is known as 'Root Definitions' (RDs) because these names describe the root purpose of the model and its transformation process where 'inputs' transform to 'outputs'. RDs are equivalent to business objectives. In RDs the transformation process is never verbs transformed into verbs because actions only lead to change and can never be a destination or an object which is changed. For example, transforming spare cash ready to be invested into invested spare cash is the type of transformation that occurs in RDs. Nevertheless, relying on the transformation process only prevents HAS models from being richly modelled, therefore, more elements are added to transformation in the RDs (Wilson, 2001). Smyth and Checkland (1976, cited in Checkland & Scholes, 1999) concluded that RDs should include more elements which are the CATWOE elements defined below:

1. Transformation process (T) which overarches the transformation of inputs into outputs;
2. Customers who are the victims or beneficiaries of the transformation (T) process;
3. Actors who implement the transformation (T);
4. Weltanschauung (W) or world view which makes the transformation (T) meaningful from the perspective of the participants;

5. Owners (O) who could stop the transformation process;
6. Environmental (E) constraints which are the surroundings of the systems, affecting them but cannot be controlled by the systems.

The most important CATWOE elements are the Transformation (T) and the world view (W) and their interaction because there are different transformations for any HAS model depending on the world view, which varies between systems but there is one transformation and world view per system. For example, a view that developing recruitment plans (T) could improve the unemployment rate in an area, where this point of view is the W of the system and the development process is the T. Accordingly, HAS models can be developed without the CAO elements but must have the T and W elements, but the CAO elements provide depth to the systems activities through naming who the system affects, who implements it, who can stop it, and who its beneficiaries are (Checkland, 1999).

The logic for the CATWOE development is through defining a system which can do X where X is the transformation (T) process, where the system can be constrained to do X by carrying out Y which is the 'how'. To include the Owners (O) in the elements, the RD can be expressed as the system doing X through Y to achieve Z which is related to the owners' long-term impact on the system. Y is what connects X (which being done by the system) and Z (which is the long term aims of the Owners). Finally, CATWOE elements must not be worded differently from the RD, even if they are logically needed (Checkland & Scholes, 1999).

Modelling Relevant Systems: HASs are modelled using CATWOE and follow the same purpose of RDs and have verbs in the imperative form as the modelling language. The model consists of different actions carried out to achieve the purpose of the system which is suitable for HAS models. HAS activities are logically dependent on each other based on their relationship and on the world view (W) of the system. Contingency of activities is important for the model development where the activities with logical orders are connected with arrows to define relations between activities. Any HAS model that has 7+or-2 activities that can be included in one model can be expanded based on the resolution levels of the system. These activities include monitoring and control activities to make sure there are no improper performances of the model (Wilson, 2001). Furthermore, in any transformation process, success is judged from a logical basis, through the 3Es and whether the system works successfully in producing the output or not. The 3Es comprise:

1. Efficacy: which is having the system work successfully in producing the output or not;
2. Efficiency: which means that the outputs are being produced with the least required inputs or resources and are still being successful;
3. Effectiveness: is having to reach the owners of the systems ultimate long-term aim or goal.

Checkland and Scholes (1999) gave an example of how there is confusion among public service providers using SSM about the 3Es by stating that efficiency, in the form of value for money, was being confused with efficacy which meant end user satisfaction. This requires a proper understanding of the 3Es by the modeller. HAS models should have effectiveness in another

level from efficacy and efficiency in the model because it represents the long-term objectives of the owners which influence whether the system should or should not exist. Checkland (1999) stated that the Viable Systems Models (VSM) was used to model relevant systems, instead of HAS models, after naming the Root Definition and producing the systems CATWOE elements. Viable Systems Models were relevant to human activity and did not provide a real description of the world but provided a tool to debate against the real-world situations. Also, VSM had no right or wrong answers, only needing to be logical and rightly modelled or not through linking the root definition to the CATWOE and finally to the model itself.

Comparing Models with Reality: HAS models provide the foundation for a well-structured comparison with the real world concerning the problem situation improvement. This comparison between the models and reality is done to stimulate debate amongst participants, via four methods which are informal discussions (face-to-face interviews, group questioning), formal questioning, scenario writing and activities' modelling (Wilson, 1993).

4.3.3.2 Cultural Stream of Inquiry

Cultural streams of inquiry integrate human affairs, feelings, beliefs and meanings which humans gain from their professions, upbringing and interactions with other individuals into the logic-based stream of inquiry and the models' development. The integration of cultural issues such as human affairs, feelings, beliefs and meanings into the modelling of systems improves the overall implementation of the inquiry process because it includes the softer issues. Cultural streams are built using rich pictures, analysing interventions, social systems and political systems. In the early stages of SSM development some researchers mistook the culture stream of inquiry to be a one-time phase and thought that it need not be visited again during the research. Nevertheless, the cultural stream is a continuous investigation to understand the meanings and beliefs of stakeholders and improve the development of RDs and HAS models. The cultural stream of inquiry is implemented through the following steps:

Rich Pictures' (RP) building: investigating human affairs to produce rich, complicated relationships and interactions making the representation of these relationships, in a written manner, a cumbersome task. Therefore, pictorial representations explain complex relationships better than describing these relations in written representations because information can be viewed in parallel which forms a full display of all relations in RPs. Stakeholders' brainstorming sessions yielded better ideas when drawn in cartoon like pictures than when producing them with words to represent a problem situation which emphasised the importance of rich pictures (Ho & Sculli, 1994). Accordingly, Rich Pictures building (RPs) clarified the problem situation through drawing organisational entities, their relationships, individuals with significant influence, issues, and conflicting areas. Symbols and arrows are used to express individual feelings, meanings, complicated relationships between stakeholders and entities and beliefs about the problem situation. Using similar symbols and arrows consistently for similar meanings ensures a rigorous approach leading to reliant RPs. Finally, the understanding created by the RPs leads to the choices made for HAS models and if they are issue based or primary tasks (Wilson, 2001).

Analysis of intervention (Analysis One): actions needed for the improvement of the problem situation lead to an intervention and may itself cause problems which create a need to analyse this intervention as a situation. The intervention analysis considers three roles; firstly, the ‘client’ role who benefits from the research taking place and applies the intervention. Secondly, the ‘would-be problem solver’ role who is directly linked to the intervention and dictates how it should be done according to their perceptions. Finally, the ‘problem owners’ roles who are groups or individuals, nominated by the problem solver, that own the problem and provide useful insights on the problem situation on the different perceptions which are the sources of relevant systems. A single problem’s three roles might be same entity or individual. The three roles and their responsibilities feedback in the relevant systems selection in the logic-based stream inquiry (Checkland, 1999). The most common mistake, with analysis one, is to confuse clients with problem owners which develops a wrong orientation of the system models. Successful SSM application must name ‘clients’ ‘problem owners’ ‘problem solvers’ ‘relevant systems’ accurately and consistently (Checkland & Winter, 2006).

Social system analysis (Analysis Two): RP building is an iterative process which continues to be developed during the research duration with new ‘problem solvers’ and ‘problem owners’ emerging. Analysis two deals with the social aspects of the problem situations by investigating the relationships between the three factors: roles, norms and values. Roles are defined as a social position which is influential on the problem situation which can be either organisational (such as managers) or behavioural (such as role models). Figure 11 shows the interaction of the system between the three elements.

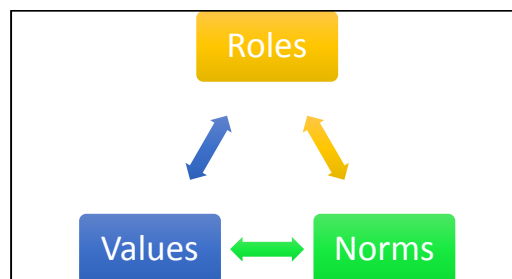


Figure 11 The appreciative system factors (Source: Checkland & Scholes, 1999)

Roles behave in an expected manner based on their position which can be translated to norms of behaviours. These norms are judged by the values as standards of measurement. Values are beliefs about what is humanly good or bad (defined in the SV sector after references). Defining values, norms and roles depend on the context of where the problem situation occurs whereby a private sector company has different factors other than public sector companies. Analysis two is built from multiple sources of what is acceptable as roles, norms and values.

Political analysis (Analysis Three) assesses how power affects the problem situation from a political dimension through adopting the notion that any human activity will have political dimensions and power conflicts. Power source identification, such as personal reputation, formal authority and charisma, is essential in conducting this type of analysis.

4.3.3.3 Soft System Methodology Characteristics

SSM has multiple characteristics which distinguishes it from other types of systems theories and provides justifications for researchers interested in using it. Below is a review of these characteristics and how they suit the research requirements:

A) Relevant Models: HAS systems are not in the real world in SSM, because HAS models help researchers produce interpretations of the real word situation based on multiple views, following social constructionism. Problems emerge from real world situations and HAS models produce conceptual models which are used in comparison with the real situations to develop significant perceptions about the problem. Models are never perfect and do not draw a complete perception about reality as they are a partial representation of the reality they are developed from. Human activity systems meet systems emergence and hierarchy characteristics by having purposes to fulfil and having higher and lower levels HASs, but these systems are developed based on the thoughts and perspectives of their developers. HAS models are related to the real purposeful actions of various perspectives of a problem situation which means that they might conflict and have opposing points of view but work under a supra-system towards creating consensus through delivering actions which improve reality or shed light on a certain phenomenon (Checkland and Scholes, 1999).

B) Problem situation: exploring the problem situation is an ongoing process during the research based on analysing facts and examining organisational norms, values and roles and their interaction with the situation (Sgourou et al., 2012). However, what constitutes a problem is variable and changes from one situation to another, which is why Ho and Sculli (1994) argued that there are multiple approaches to viewing an organisational problem situation based on SSM and classified problem situations within organisations as:

1. Lacking an objective which the organisation works to achieve and needs to establish objectives to pursue.
2. The organisational objective is known but the organisation does not know a suitable route to achieve it, which creates a need to name relevant information to name the most suitable solution.
3. Objectives and methods of achieving them are known but the organisation needs to choose the most suitable of objectives and methods.

In types 1 and 2, SSM is utilised and RPs become important because, as per Walker, Steinfort and Maqsood (2014), RPs yield better results in messy situations where the problem source is ambiguous and vague. They added that RPs are used in solving and explaining situations which have a variety of possibilities.

C) Rich Picture Building: RPs should be developed in a natural context meaning that there is no need for imposing any organisational structure if it does not exist. RPs should be developed in non-systems terms because despite systems being functional and structured, they may limit the soft issues from emerging into the rich picture. To overcome this problem of Rich Pictures being built in a systems rigid form, Ho and Sculli (1994) suggested that techniques such as

cognitive mapping and process maps are used to state freely any representation that would help in plotting the RPs. Walker, Steinfort and Maqsood (2014) argued that building RPs can improve problem situations which simply do not have an optimum solution and/or change frequently so that any solution chosen might become a problem because they provide connected stories about the situation.

D) Challenges for SSM Implementation: SSM was initially designed as part of Action Research (AR) which is defined as a cycle initiated by individuals commissioned to actively participate in asking questions, gathering data, deciding on an action route and pursuing to eventually solve problems. Hence, SSM was designed to be implemented in cycles, and solutions were compared with the real world and discussed among participants, it was suitable to pursue action research. Nevertheless, using SSM with action research might suppress the wider potential SSM possesses, for several reasons, as follows:

1. AR commissioned by an organisation to solve commercial problems, might limit how SSM's thorough exploration of the problems because of the commercial pressures placed by the organisation on the research team, to obtain fast results for the sponsors. In the case of a problem situation or an ill-defined issue more time is needed to construct the problem situation to a level that is satisfactory for the researcher implementing the SSM.
2. If the problem is predefined by the sponsors, the ability to intertwine both cultural and logic-based streams of enquiry gets neglected because SSM users are forced to develop models for the predefined problem straight away.
3. Active researchers might lose the advantage of being non-biased and adopt certain perspectives that are aligned with sponsors' views which refutes the notion of social constructionism and building actions to achieve consensus (Green & Simister, 1999).

Accordingly, Greswell (1998) used SSM successfully in her research to explore manufacturing strategies and developed conceptual models to improve how manufacturing strategies are approached without being part of an action research and this resulted in producing good explanations for, and solutions to, her research problem. Accordingly, in this research SSM was more suitable to be used as part of the case study method (discussed in section 4.5.2) to gain an in-depth understanding of SV in public construction projects, more so than being used as part of an action research.

4.3.3.4 Soft System Methodology Criticism

Qualitative and quantitative research methodologies are critiqued and challenged by academics to name their strengths and weaknesses and researchers need to justify their research methodologies choices against such criticism. SSM is no exception. It has been criticised based on its epistemological stance, ability to improve the situation and potential failure to investigate complex social phenomenon. This section discusses SSM criticism and justifies why the researcher used it as the research methodology. Jackson (2001) criticised SSM for having an interpretive social reality with a subjective nature wherein he argued that SSM does not go beyond the status-quo of the situation. To clarify, Jackson (2001) implied that SSM was regulative because of its ability to build an understanding of how order and cohesion within

organisations are achieved and maintained but lacked the ability to radically change the situation.

Houghton and Ledington (2002)'s examination of the historical progress of SSM claimed that by the year 1998 SSM changed from having a problem-solving nature to having a learning system nature by assisting users to learn about the situation and was not directly used to facilitate change. Despite SSM's initial development to solve a problem situation, contemporary SSM usage is to understand the situation and learn about it without directly improving the situation. Checkland (1999) defended SSM against this claim by asserting that SSM processes construct a negotiation dialogue between different actors (Stakeholders), where this negotiation could be both regulative or radical based on the HAS modelling process and the ability of the actors themselves to change their beliefs and views about the situation. Mathiassen and Nielsen (1989) discussed the ability of SSM to radically change the status-quo and argued that radical changes are based on the characteristics of the situations and not the characteristics of the methodology itself, which agreed with Checkland's defence against Jackson's.

Problem situation definition is about constructing concepts, issues and situations to provide a meaningful way for actors to interpret and navigate messy situations. Hence, if SSM provides clarity about the status-quo and does not provide radical changes it assists actors in structuring their complex situations and providing a base with which they can understand the status-quo and work on further improving it. The need to accommodate different views is triggered by the constructionist view of problem solving because it depends on how actors build and shape their social reality. SSM constructs contrasting views and disagreements and builds a frame for the problem based on these contrasting views and a pattern to learn about the problem. This combination of learning about, and building a structure of, the problem can create a debate which can lead to improving the problem situation because by learning about the problem and accommodating multiple views about it, a platform to assess suitable scenarios is created (Houghton, 2013). Accordingly, despite SSM being criticised for having an interpretivism ontology, the problem definition through rich pictures and HAS models offer a better understanding of the situation to the actors which leads to improvement even if it does not provide radical changes which depend on the situation and not the methodology.

Moreover, Prevost (1976) saw SSM as having a positivist outlook based on the argument that root definitions and conceptual models are some form of a normative representation of the real-world system. However, Checkland (1999) responded to this claim by explaining that root definitions and HAS models are constructions of different perceptions of the actors involved in the problem situation. He added that root definitions are not a representation of reality and that they are a group of conflicting perspectives of reality which focus on conflict and change.

Naughton (1979) (cited in Houghton & Ledington, 2002) argued that SSM does not have a positivist nature as claimed by Prevost (1976) and indicated that it had a whiff of positivism but there was no evidence to support these claims as Houghton and Ledington (2002) claimed. Ledington and Ledington (1999) argued that modelling Human Activity Systems aimed at presenting a stable definition of the activities, supported by the stakeholders involved in the situation and then creating a framework to determine the system required support of these

activities. The HAS models produced based on their arguments cannot be defended against challenges. They added that the models are simple when compared to the actual situations and this requires the use of multiple models to represent the situation and that the modelling outcomes can be confusing for the users because of the numerous models and activities.

Responses to the positivist criticism was examined by the researcher and given below is how the literature responded to these claims. Houghton and Ledington (2002) indicated that SSM deals with perceptions and not hard facts and that HAS models are manifested as perceptions of actors who can construct meaning freely. Therefore, not a single model can be testable, and all HAS models are accepted according to the world view of their creator. Furthermore, SSM problem structuring depends on who views the situation as problematic where the lack of structure offers many possible constructs as to what the problem can be from a variety of perspectives (Ghosh, Roy & Sanyal, 2016). This argument places SSM in contrast with the literature about problem solving methodologies based on hard systems (with positivist views) because hard systems rely on defining the problem based on an available definitive structure for the problem. In other words, positivist methodologies have known constraints to their problem so when the boundaries cannot be defined positivist methodologies are challenging to use. When the boundaries are lacking, an opportunity is created to construct a meaningful framework for the actors according to SSM. Messy problem situations have multiple points of entry into the problem according to different interpretations, which is what the HAS models offer (Houghton, 2013). Checkland and Scholes (1999) argued that hard system methodologies have a built-in positivist ontology where an inspection in the problem would depict that it contains systems such as organisations and this system can be equivocally described. This leads logically to the idea of manipulating systems of the assumed reality to name a solution which is optimum for the problem. Checkland (1999) argued that SSM does not belong to the positivist ontology because of five reasons: SSM does not deal with problems, it deals with problematic situations constructed by actors based on their perceptions of reality. Root definitions can be constructed in many ways according to SSM which is acceptable according to the previous reason. Each HAS model embodies a single perception of reality according to a view clearer than the complexities of reality. SSM aims at contrasting and comparing different realities constructed by actors. SSM can be started from any point from the seven steps which is opposite to what the hard systems offer. The third criticism is about HAS modelling being complex and producing numerous outcomes; the pilot study examined it and perceived that HAS modelling can be confusing because of the activities and subsystems it produces. Therefore, within chapter five the Generic Design and Construction Process Protocol was added to SSM to offer actors clarity towards what the HAS models produced.

Finally, SSM was is suitable for social value context in public project procurement because it accommodates different actors' views without having them to agree completely, they only need to arrive at a point of common understanding about what they construct through a group interpretation of the situation (Houghton, 2013). From chapter two it is clear that different actors have different views about what SV represents for them and even pursuing pursuing it has different routes. Public procurement as reviewed is the purchasing activities carried out by actors from public organisations to procure construction facilities where these actors are required to deliver these projects within budget and according to schedule. These actors have

a positivist or quantitative nature in their day jobs which means that using SSM which originated from ‘engineers’ wanting to gain a greater understanding and expression of human centred complex problems, can be suitable for them. HAS models can change between paradigm boundaries between interpretivism and positivism if the user desires so because it is a methodology and not a method (Houghton & Ledington, 2002).

Based on chapter three it is perceived that SV in the context of construction projects is complex and has multiple interpretations according to stakeholders’ views where different factors influence how these perceptions are built. A similar study used SSM to investigate an affordable housing case study in India where it was used to analyse the complex context of an affordable housing project in an urban Indian city with its social and political complicated circumstances. SSM included the perspective of multiple stakeholders with a diverse range of views such as local bodies, local agencies and the local community. The client had a specific perspective about the benefits of such a project, whereas another public agency which represented the local community had a different vision about how the project could benefit the community which might have clashed with the perspectives of other stakeholders.

SSM was the methodology which enabled the researcher to deal with these different views and understand the problem situation whereby he used rich pictures to combine the various perceptions of the stakeholders about the problem situation and create a social construct using multiple perspectives. This led to constructing certain constraints and relations between different entities from the different perceptions collected. These constraints were viewed by the researcher as opportunities to improve the problem situation or to enhance how the situation is viewed (Ghosh, Roy & Sanyal, 2016). In this research constructing the problem situation was difficult which is what the SSM enabled the researcher to achieve whereby the complex circumstance of the area, the stakeholders’ views and the construction element of the project led the researcher to use SSM in investigating the status-quo. The research began with using rich pictures which agrees with Checkland (1999) concerning using SSM from any point. SSM provided a common ground between the stakeholders whereby each actor reached an understanding of other perceptions through the rich picture despite having an independent interpretation of the situation.

In another research the Belgian Healthcare Knowledge Centre was commissioned by the Belgian Ministry of Public Health to do a research which can offer input to reform the Child and Adolescent Mental Health Services system. The research aim was to set up a participatory process to establish a future Belgian CAMHS-system. SSM was used in this research as a learning process where the different perspectives were confronted with each other. In total 66 individuals from different organisations linked to the CAMHS took part in the stakeholders’ events such as in-depth interviews, focus groups and workshops. Participatory information and policy documents were used to understand the problem situation which led to the creation of HAS models that would provide a perspective about how a CAMHS system would be according to these different perspectives. The model produced 35 activities which were classified in nine different types of activities which can be separately discussed by different actors. These actors held a dialogue based on each action and were able to produce recommendations for improving the situation (Vandenbroeck et al., 2014). Accordingly, SSM

has proved that it can be used in investigating socially complex situations, navigate through contrasting perspectives and construct a common ground from where conflicting actors can look to improve their situations.

4.4 Research Philosophical Trinity

Research has a philosophical trinity of epistemological, ontological and axiological views which differentiate between qualitative and quantitative paradigms based on the researcher's views. Epistemological and ontological stances are often inseparable because ontology is defined as views and characteristics of reality's nature and theories about the nature of knowledge are similar to theories about the real world creating a strong overlap between epistemology and ontology. The ontology of researchers who believe that reality is a social composition probably have a constructivism epistemology, whereas, researchers with an ontological perspective of reality consisting of objects independent of values lie in the positivist epistemological stance. Moreover, axiology is the philosophical perspective of knowledge value because it answers questions about the purpose of the inquiry. There are two schools of axiological philosophies; firstly, the Aristotelian school which values knowledge as being above anything else where researchers create knowledge for the sake of knowledge. Secondly, the 'Applied Science' school where knowledge value is created through using it to inform individuals and enable positive change (Durant-Law, 2005).

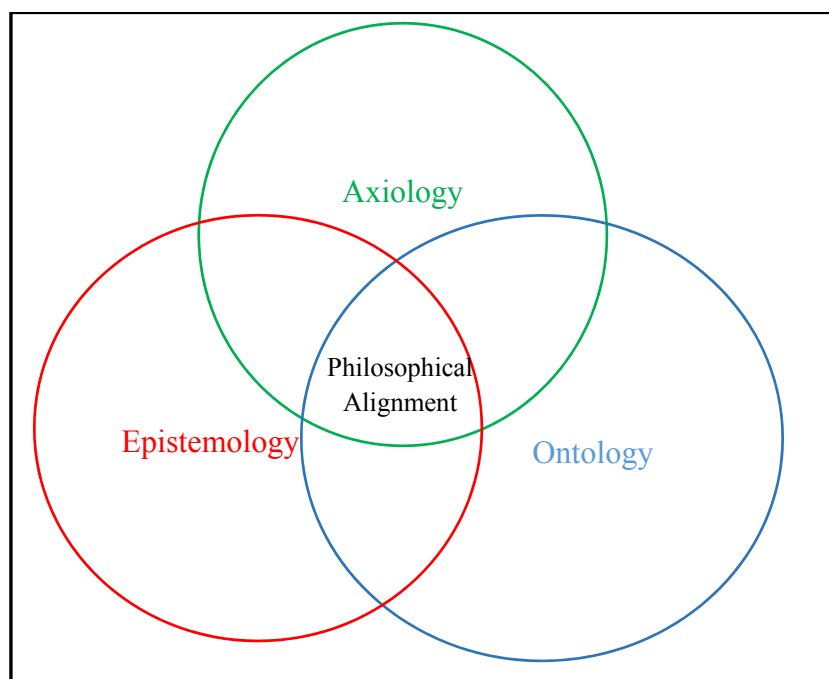


Figure 12 Philosophical alignment between epistemology, ontology and axiology (Source: Durant-Law, 2005).

Figure 12 shows that the overlap between ontology, axiology and epistemology provides the alignment needed to produce a philosophically acceptable research. Accordingly, researchers must declare their philosophical elements because this provides the logic to approach their research and justifies the link to the research methodology. Accordingly, this research follows the applied science axiology where this research is expected to create positive change and social constructionism epistemology (discussed below) which covers the ontological stance

because ontology and epistemology are inseparable. The following section discusses the epistemological stance of the research and justifies the decisions made by the researcher about the epistemology.

4.4.1 Research Epistemology

Becker (1996) defined epistemology as the stance which constitutes what is acceptable in the field of study or research and depends on the subject being studied and what the researcher considers important. Epistemology refers to the nature and perception of knowledge and whether the basis of knowledge can be depicted as hard and/or real in a sound form or whether it is softer and more subjective, based on personal experience and insight. The term epistemology was derived from the ancient Greek verb ‘epistame’ which means to know something very well by experiencing it through a direct relation between the knower and what is known (Dieronitou, 2014). A process engineering research was undertaken by two researchers with one with operational management background and the other had a social background. The operational management researcher was used to collect quantitative data, favoured natural science stances because reality was represented by objects that he believes to be real such as computers and machines which exist beyond the research confinements. His research argument was that data collected about these objects are less biased and more ‘objective’. Whereas, the other researcher was interested in investigating the same topic but through narrating the feelings and relations between workers and their managers which some argued, cannot be measured, might be biased and can be interpreted according to the researcher’s own beliefs. The data collected had a softer, more ‘subjective’ nature when understanding it because it means something within the context. (Saunders, Lewis & Thornhill, 2009)

Dieronitou (2014) elaborated that an epistemological stance lies between two opposite representations of knowledge; at one end, constructivism/interpretivism which is research conducted among people where researchers investigate humans’ roles as social actors with roles to play on the stage of human life. Using this stage metaphor, actors play their roles according to their interpretation and beliefs about the situation and what they need to do. In interpretivism researchers are challenged to conduct their research on a social stage of other actors, understand the problem and to contribute to knowledge from these actors’ points of view. Interpretivism is suitable for business and management research because it covers unique situations and behaves under a set of circumstances that is difficult to duplicate. At the opposite end is ‘positivism’ where knowledge is developed natural science methods which deals with objects independent of context or environment where in social science such a stance requires an observable social reality. Positivist research is carried out via a value free approach where values, understandings and beliefs do not impact the research at any stage which makes the research neutral at stage of its development. Positivist researchers are likely to examine an existing theory through a hypothesis which is proved or refuted according to the outcome of the research. The challenge in positivism is that researchers always have a minimum level of value towards their research especially in social disciplines, whereas, in positivism the research should be value free. Data collection in positivist research tend to be highly structured with a predefined scope for the information being collected; also, positivist researchers tend to collect

data that can be represented numerically (Saunders, Lewis & Thornhill, 2009). Epistemological stance can be between the positivism and interpretivism in the form of social constructionism which accommodated SSM and its application. Therefore, the next section discusses social constructionism as the epistemological philosophy for SV research.

4.4.2 Social Constructionism

Social constructionism was developed as an opposition to positivism based on the belief that there is objective truth used in accurate ways of delivering knowledge where opposite to positivism, objects have value when humans create meanings using them which make objects partners to humans in constructing meaning. Burr (1995) stated that, in the last 15 years in North America and the UK, 'Social Constructionism' was the philosophy which covered the new approaches (critical psychology and discourse analysis) to social epistemologies which depicted humans as social beings. Crotty (1998, P 42) defined Social Constructionism as "*all knowledge, and therefore all meaningful reality as such, is contingent upon human beings and their world, and developed and transmitted within an essentially social context*" where meanings are not discovered but constructed by the human beings; as they engage with the world they are trying to interpret reality. Hence, social constructionism lies between objectivism and subjectivism ontologically and positivism and interpretivism epistemologically where it mends the gap between both extreme ends of ontologies and epistemologies.

Crotty (1998) stated that social constructionism is the epistemological stance compatible to realism ontology where humans construct meaning through adding meaning to the objects surrounding them where objects already exists but what these objects mean to humans vary from one constructor to another. He added that it is impossible, from a constructionist point of view, to separate humans from objects or humans from their surroundings because isolating objects from their externalities would not develop adequate descriptions. Moreover, Gorski (2013) indicated that social entities consists of human beings and objects added to human beings to form social entities where human's social interpretations link the objects to humans based on the context to form social entities. For example, a manufacturer cannot be considered a social entity without the physicality of a building, machinery and the merchandise being manufactured. Social constructionism depends on systems of symbols; for instance, human culture, which guides human behaviour, act as a social influencer on interpretations where this culture (regulations, rules, plans and instructions which feed into governing human behaviour) forms the social notion of reality and meaning. The culture surrounding constructionists influence their interpretations from the day they are born forming a large system of significant symbols not a single phenomenon (Crotty, 1998).

Constructionists make a whole from bits of what might be part of other wholes; hence, constructionists are focused on the objects they work with. Constructionism answers the question 'what is done with these items and what can they become? Thus, engaging with objects and looking at the possibilities they can offer is part of the core answers to this question. Charmaz (2008) argued that researchers in social constructionism are subjective regarding the phenomenon they are investigating because they interpret the interpretations and construct constructions of participants within that process; they bring their history, values and meanings

to the process. However, this is not necessarily a drawback on the research, as this ability is required to fully grasp the implications of a research and be able to use methods that are important for the inquiry. *“The human instrument builds upon his or her tacit knowledge as much as if not more than upon propositional knowledge and uses methods that are appropriate to humanly implemented inquiry”* (Lincoln & Guba, 1985, P.187). Constructionism is thus the appropriate means to investigate closely in human situations and not with the discovery of objective truth as the scientific methodology requires. This bolsters the above made decision to refrain from using the scientific methodology and incorporate the systems methodology in this research. Despite constructionism being unsuitable for biological and natural phenomena, it can describe which controls movements have caused and controls’ gestures as an ongoing process, hence with different norms from one group of people to another the interpretation would be different based on the social entity, moderating the social entities (Gorski, 2013).

Constructionists believe that there is no one true side to any story and that multiple interpretations are possible, however, Burr (1995) refuted that by saying that multiple realities can provide a false liberating feeling of not having an ultimate reality which eliminates the ability to choose suitable alternatives because the foundation which people base any change on is removed when there is no ultimate reality. An answer to that challenge was that constructionists must rely on a minimum level of predefined reality, applied through theories and general acceptable thoughts. Predefined level of reality which underpins the social phenomenon opens another debate about the right point to start from. The abductive research approach chosen for this research reflected the same concepts about the exchange between theory and reality where despite any claims new ideas have existing theories as their basis.

Newton, Deetz and Reed (2011) stated that organisational analysis’ ontological and epistemological assumptions must envisage what the organisation is and how it is perceived by participants. Positivists investigate organisational reality, from a quantitative point of view, using a performance measurement approach which produces valid and reliable results were from positivists’ perspective small deviations of inputs create large variance in the outputs. In contrast, constructionists’ organisational reality has multiple social constructs which are under constant disputes because of how differently these organisations are viewed. From a social constructionism perspective, it is difficult to predict what small or large deviations to inputs would do to the outputs. Furthermore, in social constructionism it is believed that science changes its form (rather than being a single pipeline of investigation which holds the ultimate truth for explanations) because there are many assumptions about the interaction between science and technical and social issues.

Ran and Golden (2011) stated that organisations examine their identities and distinctive characteristics when chaotic circumstances occur because these circumstances produce threats to the organisational identities. For example, the 2008 economic recession created fiscal stresses on non-profit organisations which led these organisations to examine how they viewed themselves and their business models and how they negotiated their identities. These situations encourage organisations to investigate how they are socially constructed from the perceptions of their stakeholders. Organisations use these perceptions to define the changes they need and name any human and financial resources they need to add. Accordingly, any instability that

accompanies epistemologies in organisational research can be neglected because epistemologies such as social constructionism argue that building an understanding about reality is socially organised based on different views which accommodate this instability (Newton, Deetz & Reed, 2011).

Social constructionists acknowledged levels of subjectivity for their research because these researchers are the ones who construct the social realities and interpret what they mean. Researchers include their histories, theories, culture, values and norms as being part of their constructions and interpretations even if they are not aware of it or if they try avoiding it. Accordingly, during the data collection and analysis phase the identity, values, position and background of data sources and the researcher should be taken into consideration (Carroll et al., 2008). In addition, Newton, Deetz and Reed (2011) raised an issue about the validity of social constructionism whereby the source of the financial support they have for their research can have an influence on the socially constructed reality. They gave an example of the environmentalists who were funded by petroleum companies and of their arguments which might be influenced by the interests of their funders. The nature of this research being a PhD research meant there was no financial reporting to any funding organisations with the researcher being self-funded without any commitment to public or private funders.

4.5 Research Approach

A research approach must be chosen to organise and articulate the research process and guide the researcher through definite steps to answer any research questions. The selection of the research approach informs researchers decisions making about the research design in methodology and data collection techniques. Also, researchers can think about the strategies that are suitable and, more importantly, the ones that are not suitable for the research. Different types of approaches are aligned with the epistemological and ontological choices such as deductive, inductive and abductive approaches. In this research, these approaches were reviewed and a decision to adopt an abductive approach as the approach suitable for this research was made (Saunders, Lewis & Thornhill, 2009). The three approaches are reviewed below to justify why the abductive approach was chosen.

4.5.1 Deductive Research Approach (Testing Theories)

The deductive approach originated from scientific research because this approach names existing theories and subject it to rigorous testing where existing theories are the basis of explaining why a certain phenomenon occurs. In social science this approach enables researchers to answer ‘*why*’ research questions through the explanation of the specific pattern discussed earlier which is relevant to the phenomenon. Hence, the deductive approach produces explanations using relevant theories through putting forward a set of ideas or hypothesis which would form a theory (Blaikie, 2010). The stages which deduction research approach goes through are:

1. Deducing hypothesis through producing propositions to explain the relation between two or more variables based on a pre-existing theory;
2. Expressing the hypothesis in an operational way through naming two specific variables, their relationships and how are they measured;

3. Testing the hypothesis choosing a research strategy that accommodates deduction reasoning and applying it to the research;
4. Examining the outcomes either through confirming or refuting them where the theory needs modification;
5. Modifying the theory if needed.

This approach is a top down approach because it starts with the theory and ends in the specifics where hypotheses are deduced from theories or a hypothesis and tested in a specific context (Hussey & Hussey, 1997). Figure 13 shows the formal stages of deductive research approach starting from the top with theory, hypothesis, observations and confirmation.

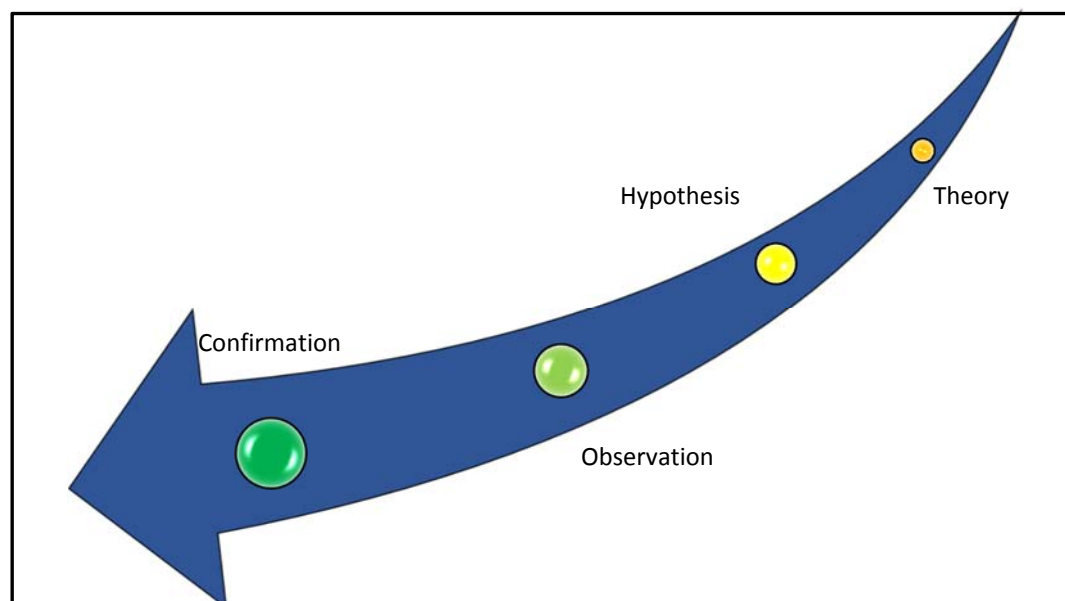


Figure 13 Deductive approach in research (top down)

The deductive approach explains the causal relationship between variables through using a theory to explain the patterns named during describing the phenomenon through applying control over the research which link the research outcomes to the hypothesis developed prior to the examining stage. This is due to the highly structured methodology used in the deductive approach which assists with achieving replication and ensures the reliability of the results. Moreover, a deductive researcher is independent from the research during all the stages to achieve the rigour required in examining the hypothesis and ensure that the results maintain high levels of objectivity and pure causality without any biases from the researcher. Deductive generalisation is statistical where the samples chosen must represent a sufficient numerical size (Saunders, Lewis & Thornhill, 2009). The deductive approach was not suitable for this research because the chaotic social context could not be linked to established theory and develop propositions that would not change during the research according to the outcomes.

4.5.2 Inductive Research Approach (Building Theories)

In inductive research, data is collected, patterns emerge, characteristics named, generalisation achieved, and theories are developed on a phenomenon being investigated. The objective of naming patterns is to provide a description of the social phenomenon being studied and answer

the research questions. Induction starts with collecting data about the phenomenon, understanding the problem better, depicting the characteristics through analysis and compounding the data into theories to achieve generalisations. The data is collected in a flexible fashion where it can even include researchers' observations and interactions or can be collected on more than one occasion rather than a single occasion.

The inductive approach does not rely on any assumptions about the studied phenomenon prior to collecting data; therefore, it is considered a bottom up approach from specific to general. Inductive approaches are suitable for qualitative research more than quantitative research because researchers can deal with messy situations or less defined problems wherein researchers can adapt the process midway through undertaking the research or when dealing with additional issues. Figure 14 shows the stages inductive approach in research goes through to move from specific to general where it starts, firstly, with observation as part of the data collection; secondly, depicting patterns within the data collected; thirdly, the formulation of a hypothesis that can be explored and, finally, producing a general conclusion or theory (Saunders, Lewis & Thornhill, 2009).

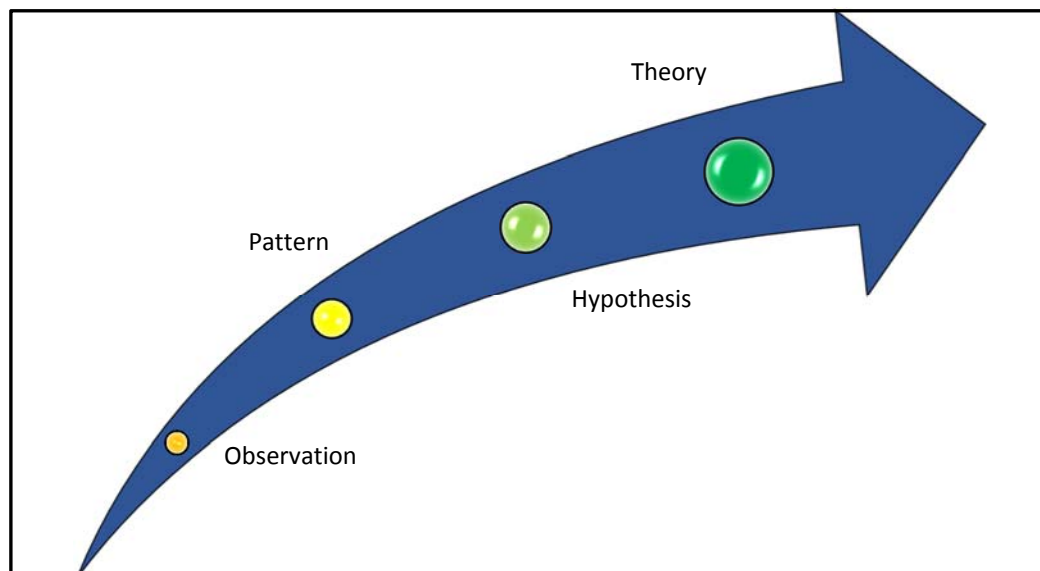


Figure 14 Inductive research approach stages (bottom up)

Social science used predefined theories to develop cause and effect relations between variables without understanding the phenomenon in its natural context was how the inductive approach emerged where social science go-to approach became the inductive approach. Deduction constructs a rigid approach towards the research methodology and does not provide alternative explanations for the studied phenomenon (which might require a less structured approach to yield successful results). The inductive approach builds an understanding of the context surrounding the phenomenon which is why small samples of individuals or cases are studied rather than large populations which is like the sampling and replication logic.

Finally, the inductive approach is not suitable for research if more explanation is required about the phenomenon being studied because the lack of minimum theoretical basis to the phenomenon to explain it cannot be substituted by emerging patterns and building theories to

provide better explanations to the phenomenon. Hence, the inductive approach might not be the most suitable approach when an explanation is required (Blaike, 2010).

4.5.3 Abductive Research Approach

After reviewing the inductive and deductive approaches, the researcher decided that what Blaikie (2010) defined as the abductive approach was suitable for the research because of its ability to produce theories derived from social actors' (phenomenon populations) language and the meanings of everyday activities. The abductive approach answers research questions which cannot be answered by either the inductive or the deductive approaches independently through uncovering new variables and relationships of the phenomenon being studied. The logic behind the abductive approach using existing theory to create new variables and unfold their relations was examined by John Maynard Keynes who argued that, despite claims by inductive researchers that their ideas are not influenced by any theories, they were entrapped in certain theoretical schools based on the revelation that real world actions are related to a theory at a point in time despite practitioners being aware of it or not (Winter and Checkland, 2003, P 187).

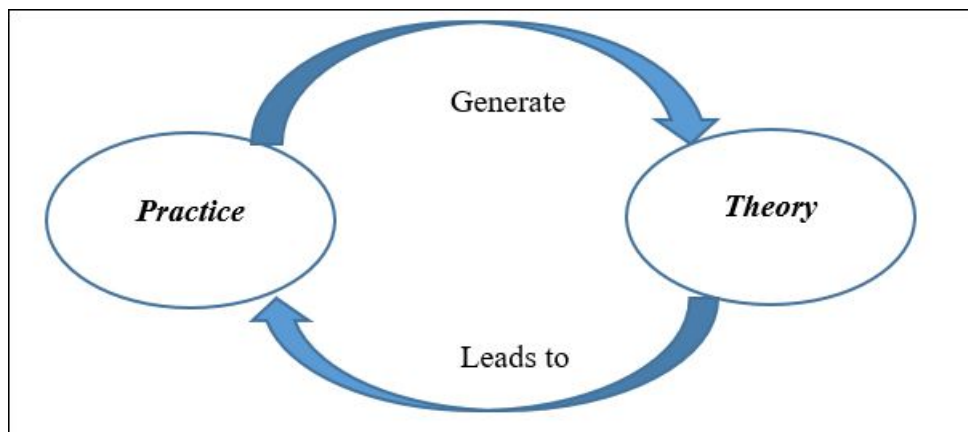


Figure 15 Exchanges between theory and practice (Source: Winter & Checkland, 2003).

Figure 15 shows that neither theory nor practice is higher than the other where theory can be driven from practice and practice derived from theory through an iterative repeatable process (Winter & Checkland, 2003). Furthermore, the abductive approach answers the *why* and *how* questions through developing an understanding of the phenomenon instead of explaining it. Abduction includes people's interpretations and meanings of their lives and decisions, which is excluded from the inductive and deductive approaches. The phenomenon being studied is perceived as a problem situation constructed by individuals who are the social actors aiming at improving the problem situation. Hence, abductive reasoning produces theories derived from social actors' language, and meanings of everyday activities which starts from the description phase and moves towards deriving concepts which form the base for understanding the problem situation. Accordingly, abductive research investigates views about the problem situation by knowing the tacit knowledge and the symbolic meanings of the individuals in the phenomenon being studied. The abductive research provides a bottom up approach which describes the social actors' or participants' views and develops explanations and understandings by linking them to theory. This approach is aligned with the SSM approach with its two streams of inquiry to capture the softer issues through the cultural stream.

There are many levels of rigour to which abductive approach can be used; firstly, the basic level where researchers formulate concepts that represents individuals' actions and behaviours and links their decisions back to different theories. In this level of abductive approach, participants are provoked by an event to think about their tacit knowledge and the researcher names the theories which organised their decisions. Hence, researchers may use methods to provoke and encourage the participants and then search for a constructive meaning to interpret their inputs based on theories (Aliseda. 2006).

4.5.4 Stages of the Abductive Approach

Blaikie (2010) indicated that abduction has three stages of investigation; the description stage which describes how participants perceive the phenomenon being studied through discovering different everyday decisions and their meanings, motives and intentions. In stage two researchers construct abstract conceptual models for social actors to relate to and understand them easily. This technical concepts' building needs a rigorous approach to make sure that the product is reliable. This description is reported by a language close to the participants' language (HAS modelling language verbs in the imperative). Abductive research does not stop at the development of abstracts or theoretical constructs from these concepts where the final stage takes the results of the second stage and moves towards a deductive approach to examine the results as theory. To clarify, further examining is required to ensure these constructs are closer in language to the problem participants and to eliminate any biases of having the researcher construct the structure and language himself. Meredith et al. (1989) investigated whether qualitative research is conducted to validate existing knowledge or produce new knowledge and indicated that any research may have three different phases starting with description followed by explanation and ending with examining as shown in figure 16.

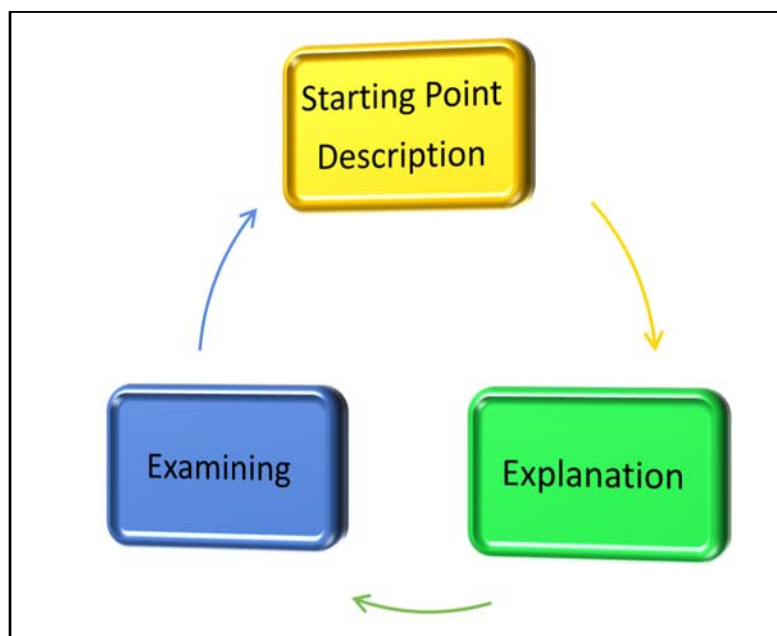


Figure 16 Three phases of qualitative research (Source: Meredith et al., 1989).

Any study might include one phase or all three phases where these phases can be independent, as shown in the figure, or might be intertwined and cannot be clearly differentiated. They cautioned that descriptions which do not explain do not formulate a complete research and,

similarly, predictions based on a construct or a structure which cannot be explained are considered unreliable and have ambiguous characteristics. To conclude, Meredith et al. (1993) argued that going through the cycle of research validates research (which is to prove or to dismiss previous perceptions until researchers can provide more complete theories) whereby descriptive models are developed and examined against reality to form an explanatory framework which gets examined also against reality until it can be developed into a theory. These three phases are discussed below.

- 1) **Description phase** attempts to gather information about the situation and report about its events. The methods and techniques used to gather the information and events needed depends on the research field and the problem situation being investigated. The outcome of description is a thoroughly documented and classified problem. The classification might be used afterwards to examine or develop theories, frameworks and models about the problem situation. Exploratory research is a form of descriptive research that includes more details and rigour which may lead to improved descriptions and insights about the problem being investigated. The advantage of such research is the production of unforeseen outcomes which lead to theoretical leaps.
- 2) **Explanation phase** is based on the process of description because description provides initial explanations which could be a simple cause and effect or could involve more complex relations between the elements of the research. These complex relations explain the situation or problem being described. A framework to conceptualise what is being studied can be built if a closed set of relations between the different elements appears. At an abstract level, through examining, the designed framework can go through the different phases of developing a theory which represents the situation. The theory can be defined as a set of interrelations between certain variables and/or characteristics which name its limits which, in turn, would construct an understanding of the phenomenon being researched and would assist in making predictions about it. Explaining a social phenomenon may incorporate three interpretations: firstly, stating the goals of the phenomenon wherein the strategies leading to a certain objective are investigated without studying the resultants of such strategies. Secondly, displaying the phenomenon as a model where the interpretation would reduce the phenomenon to elements which are familiar and understood. Finally, interpreting the phenomenon using a known law to relate the phenomenon's elements and characteristics to it; this also means that a phenomenon can be linked to a new law.
- 3) **Examining phase** Examines the concepts (deduced through the explanation phase) to determine which concepts are valid and which are not, and how these concepts develop sound conceptualisations. On the one hand, the examining process has predictions based on the explanations constructed in the earlier process, whether these predictions are examined to be valid or not. Predictions can be assumed and checked against the observations and data collected in the earlier phases through the description process. Simulation models are amongst the tools used in the examining processes. Furthermore, after the examining is done more descriptions and explanations are implemented to provide detailed elements of the situation, thus continuing with the research cycle.

In phase one of the description phase, the literature review played a significant role in forming the initial concepts and propositions for the researcher about the subject under study. However,

because the phases overlap, some of the propositions were revisited after the data collection exercise was conducted. The propositions discussed consisted of the outcome of the literature review concerning the SV phenomenon and the factors affecting construction project management performance and outcomes; this formed the first phase. For phase two of the explanation phase, data were collected using focus groups or expert panels to examine and improve the initial propositions, to provide an explanation of the phenomenon and to develop conceptual models about SV. As for phase three of the examining phase, case studies were chosen as another research method to examine the conceptual models and the explanations in a construction project's natural habitat. The next section will discuss both research methods and the justification for choices made.

4.6 Research Strategy

A research strategy was defined by Kothari (2004) as the operational known methods, technique or procedure researchers adopt to do the research where the research strategy is the direct application of choosing the philosophy, epistemology and approach because the strategy applies methods to answers the research questions. Qualitative and quantitative research methods can both be used with any research approach according to their suitability. Yin (2009) argued that research strategies are chosen based on the research being exploratory, explanatory or descriptive and the approach being inductive or deductive. Saunders, Lewis and Thornhill (2009) clarified that there is no research strategy inferior or superior to another and that their ability to answer the research question is the deciding factor.

There are multiple research strategies available for qualitative research and they can overlap or be used together in any situation according to the research circumstances. Strategies such as case studies, experiments, surveys, action research and narrative inquiry are among popular strategies used in qualitative research. Action research (AR) and case study strategies were assessed to be used in this research and the case study research strategy was more suitable than the AR. Action research was defined by Hussey and Hussey (1997) as a practical approach towards a specific research problem occurring with a predefined community of practice which involves the examination of an ongoing practice and whether it is the best approach. AR uses reflective practice which is a systematic procedure where the researcher (who could be from the same profession) examines the professional practice and experience of the community of practice. In organisational research, AR is utilised to apply change and detect the application success where AR is used after depicting the change needed and this change has been widely accepted by the organisation's practitioners. Hussey and Hussey (1997) added that AR is like a case study in its procedure but maintains control over certain aspects of the research's environment because the change factor requires the before and after detection of any occurrence of change. Saunders, Lewis and Thornhill (2009) stated that AR could answer the 'how' questions because of its ability to develop the actions needed to implement change. It was clear that AR was not suitable to pursue this research because, firstly, the ambiguity level surrounding SV and its implementation eliminated the ability of clearly depicting the change needed which AR would pursue. Secondly, SV is the outcome of collaboration between different types of organisations (such as client organisations, main contractors, local authorities and sub-contractor), hence, partnering with a single organisation might hinder the exploration

of SV from other perspectives. Finally, the research questions include ‘why’ and ‘how’ question and AR can answer the ‘how’ but not the ‘why’ questions. Accordingly, the case study strategy used for this research and the following section reviews case studies and the characteristics which led to the adoption of this strategy.

4.6.1 Case Study Strategy

Yin (2003, P13) defined a case study as “*an empirical inquiry that investigates a contemporary phenomenon in its real-life context especially when the boundaries between the phenomenon and the context are not clearly evident*”. Hence, case study strategy applies empirical scrutiny on one or more recent phenomena, in its real-life contexts through collecting and analysing different types of data and sources of evidence. Case studies support the holism and systems’ perspective where researchers study phenomena without detaching it from its real context and including the environment in the research. Hussey and Hussey (1997) stated that case studies can extensively examine elements of a phenomenon and provide an understanding of its dynamics because it is deeply rooted in this phenomenon which assists researchers in understanding complicated contexts in a clear way. Gillham (2000) indicated that case studies examine bundles of human activities rooted in the real world understand and explain them in their natural context, with direct relevance to the time and location of the occurring events.

Accordingly, the inclusion of multiple variables and natural context is among the advantages of case studies when compared to other strategies. Concerning the research at hand, this is especially striking when comparing the case study strategy to the strategies required for scientific research, namely experiments. Experiments require a strict control of all potentially interfering variables (like elimination of the context of the research or focussing on predefined variables), making it next to impossible to reproduce a finding and hence create objective knowledge. Additionally, it could be argued that objective knowledge does not apply to social research because the identification of objective knowledge, as in sciences, is never possible nor desired within social settings as within these settings, knowledge and perceptions dependent on the perception of the individual. Based on this, social experiments are excluded explicitly from this research and instead the case study approach is selected due to the following reasons. In contrast, case studies are generalised from a theoretical perspective not from a population’s perspective, because case studies examine propositions deduced from theory in unique contexts not through the frequency of occurrence or statistically (Yin, 2009). Survey strategies can investigate phenomena but have limited abilities when including the context because building a full picture requires multiple sources of data and methods of analysis which surveys do not have because they rely on a single method of data collection and analysis (answers quantifiable questions) compared to case studies who have multiple methods (Yin, 2003).

Explanatory case studies are designed to answer ‘how’ and ‘why’ research questions because these cases explore and explain an event in a long duration rather than a cross sectional case which investigates an event at one point in time. Therefore, case studies were suitable to explore SV in the UK construction context because it could track the events across a project duration from inception to operations and answer ‘how’ and ‘why’ questions of the delivery. Finally, case studies answer loose research questions because they can accommodate multiple types of evidence which offer a diverse range of outcomes suitable for different types of

research questions (Gillham, 2000). In case studies, researchers are more likely to have no interaction with the actual events and with the building of the relationships between variables but have an interpretation of their own about the occurring events.

4.6.1.1 Case Study Data and Evidence

Because research creates new knowledge, evidence is the raw material for this creation process and helps in the explanation of any phenomenon. The evidence used in research is mostly created and aligned to the research strategy, meaning that this evidence did not exist before investigating the phenomenon (Gillham, 2000). Eisenhardt (1989) stated that data collection in case studies includes a myriad of qualitative and quantitative types of data such as, interviews, archival material, questionnaires and observations or document analysis. Using multiple sources of evidence makes case studies strong because of diverse data sources, collection methods, strengths and weaknesses. Investigating contemporary events through historical studies uses primary and secondary documents and cultural and physical objects, whereas, through case studies depend on observations by the researcher on the on-going events being investigated, records, document analysis, interviews and surveys (Yin, 2003)

Cases studies are used in most social sciences, especially organisational research because organisational life cycles, structures and performances are investigated in a holistic view covering all the elements which make the organisation and offering real-world perspectives of managerial and organisational processes for any given social entity (Yin, 2003). Case studies in operational management are becoming a popular tool for theory building, because case studies are field-based strategies where researchers can cope with the changing nature of managerial methods and the surge of new technologies (Voss, Tsikriktsis & Frohlich, 2002). Commencing case studies does not require a prior theoretical framework because the context is not clearly understood until the data collection starts and then the knowledge of theories is required to explain this context. A case study has different forms, varying from an individual, a group (such as a family or a team), an institution (such as a school or an organisation) to a community (such as a small town or an industry) (Gillham, 2000).

4.6.1.2 Case Study Types

Case studies have three types; firstly, exploratory case studies which explore any phenomenon of interest by collecting and analysing data to offer patterns of further knowledge about a specific topic. For example, researchers interested in a class room reading process have the research questions ‘do the students have a strategy to approaching reading?’ And ‘if the strategy exists how often do they use it?’ This approach opens the door to a further exploration of the phenomenon being investigated through these generic types of questions. Small amounts of information are critical to exploratory case studies because they set the scene for the research framework, case protocol and selection criteria. The second type is descriptive case studies, which describe a phenomenon of interest. Following the previous example, the research questions are, ‘what are the reading strategies for the previously mentioned class?’, and ‘how are they used by the class?’ Descriptive case studies have a narrative and/or chronological nature when data are collected and analysed. A descriptive case must start with a descriptive theory to support the description of the story which is challenging in some cases. Thirdly, explanatory case studies examine a phenomenon on a deep level to understand the different

mechanics of the phenomenon and provide a justification behind such mechanics. For example, in the explanatory case examined, why the class used strategy A for reading and the basis behind choosing such a strategy. This type of case study can form theories and examine them through the data collected and analysed. It can also be used for causal research because patterns emerge through the data analysis to deeply understand a phenomenon in a complex and diverse way. Finally, the ‘*why*’ and the ‘*how*’ questions are deeply rooted in explanatory case studies (Woodside, 2010). Accordingly, explanatory case studies were suitable for SV investigation because they pursue a deep understanding of how SV is created and why.

Moreover, case studies can be used in different phases of theory building such as, in extending, generating, examining and verifying theories (Eisenhardt, 1989). Not only can case study strategies, as an empirical research strategy, produce theories that explain certain phenomena, they also can produce theories used to explain new phenomena not discovered yet (Skyttner, 2005). Table 5 shows the three phases of theory development which are, theory building, theory examining and theory modification; all three phases can use case studies as their research method in that they can answer the different types of questions, the what, why and how questions (Meredith et al., 1998).

Research Questions	Theory Building	Theory Examining	Theory Modification
What	Case	Rationalist (Case)	Rationalist Case
How	Case	Rationalist (Case)	Rationalist Case
Why	Case	N/A	Case

Table 5 Theory development using case studies (Source: Meredith, 1989)

Blaikie (2010) argued that case studies are suitable for the abductive research approach because they aim at generating understanding based on the research context. Voss, Tsikriktsis and Frohlich (2002) argued that case studies can be challenging to use where they are considered time consuming because of the multiple approaches to data collection and analysis a single case might have. Also, researchers require training and experience to apply any type of data collection methods such as interviews or document analysis. Finally, generalisation can be difficult because it is hard to generalise from the conclusion of a few case studies. A researcher can overcome these challenges by following a diverse range of procedures to overcome the illusion which envisage case studies as being one of the easiest research strategies. The following are processes that should be followed by researchers while conducting case study research.

4.6.1.3 Validity of Case Studies

To succeed in case study research, cases should be protected against validity threats in the form of construct validity, internal validity, external validity and reliability. These four tests check the validity of a case study:

- Construct validity: conducted during the data collection phase to ensure operational methods are applied. This test examines case studies’ weaknesses if there is no operational rigour towards the case studies’ activities. This test can be subjective because there is no quantitative operational method to detect the rigour of the cases. To overcome this obstacle

researchers must select changes related to the original topic of the research and show what selected measures to deliver those changes is linked to the changes.

- Internal validity: cover the validity of case studies for the cases classified as explanatory or causal cases. An example of a threat to internal validity is tracking event *X* which lead to the occurrence of event *Y* without being able to name that also event *Z* can cause *Y*. The use of pattern matching, logic models and explanation building can achieve internal validity.
- External validity: being able to generalise case study outcomes. Case study research was critiqued because of its inability to generalise from the cases, as opposed to surveys which are easier to generalise from a larger population. However, survey generalisation is statistical whereas, in case studies, the ability to generalise is based on analytical generalisation where researchers attempt to generalise specific results to a certain broader theory and not a population.
- Reliability: the test of having the same results when following the same procedure(s) by another researcher. Hence, reliability is to reduce biased opinions and errors when conducting case studies. To achieve reliability, the procedures undertaken, and the different stages of the case studies must be documented (Yin, 2009).

4.6.1.4 Multiple versus Single Case studies

Case studies are designed as a single case or multiple cases. A single case is meant to apply an exploratory case study to a unique phenomenon that requires exploration logic to it. Single case studies provide a deep understanding of an event by exceeding the exploration of the event and explaining the multi facets of it. Yin (2003) gave an example of the Cuban missile crisis where complex bureaucracies and politically driven personnel were theories examined in the case with the researcher able to explain the events according to each theory despite them being competing theories. Single cases are difficult to replicate when examining an established theory or create a new revelation from the conclusions (Yin, 2003). Eisenhardt (1989) indicated that a single case study's disadvantage is the researcher's biased conclusions when generalising such research because patterns from the single case cannot be matched or validated through other cases.

On the other hand, Eisenhardt and Graebner (2007) and Yin (2009) argued that multiple case studies are more suitable than single case studies in generating theories, examining theories, achieving research validity and analytical generalisation because a single theory can be investigated in multiple contexts and under different environments in multiple cases. Multiple case studies have common features which spread through the multiplicity of the cases (Gillham, 2000). Yin (2009) stated that multiple case study criticism was based on a misunderstanding about multiple case study generalisation being statistical which he refuted and argued that multiple case generalisation is analytical/theoretical generalisation. This was supported by Eisenhardt (1989) who indicated that multiple case generalisation is based on theoretical generalisation which provides theory examining foundation which single cases do not offer.

Therefore, multiple cases assist researchers in overcoming the limitations of single case studies because they use cross case analysis to examine the external validity of the research design. However, the multiple case studies approach has its own challenges in the form of the extensive use of resources which can sometimes be beyond the reach of a single investigator's ability.

Additionally, there are mistakes that researchers might make wherein they may consider multiple cases to be multiple inquiries of the same input or a survey of multiple informants which is a superficial way of applying multiple case designs. Contrary to that, every case study in a multiple case research should achieve a goal in the plan of the whole research in a logical sequence.

4.6.1.5 Holistic and Embedded Units of Analysis

Case studies' units of analysis is the main entity being studied and analysed in the case, where in social science the unit of analysis can be holistic or embedded in the form of an organisation, a group of people, an individual or an artefact. The unit of analysis is derived from the research problem or questions. Under the guidance of the propositions made prior to naming the unit of analysis, researchers can recognise exactly what aspects of the analysed units would be suitable to be investigated; otherwise researchers may end up trying to investigate every aspect of the unit measured. The differences between holistic and embedded units of analysis are shown in table 6 below.

	Holistic Units of Analysis	Embedded Units of Analysis
Nature	Represents the entire case	Represent multiple elements within the same case
Usage	Used when logical units of analysis cannot be named, or the theory examined is holistic in nature	Used when researchers are interested in multiple elements within the same case (more specific)
Disadvantages	Applied at abstract level with superficial implementation without emphasis on events, clear data or analysis methods. Any changes in the research objectives deviates the case into answering different questions	Lead researchers into a micro level investigation where they might neglect the case itself Subunits of analysis cannot reflect what they depict on the main units.
Advantages	Utilise the efforts of researchers on the whole of the case rather than focusing their effort on smaller elements subunits of analysis.	Adapt to changes because the subunits of the analysis act as a backup to any changes to the research questions or objectives.

Table 6 Differences between Holistic and Embedded units of Analysis

Figure 17 shows a matrix developed by Yin (2003) for the choices made about case studies, i.e., being single or multiple, and units of analysis being holistic or embedded.

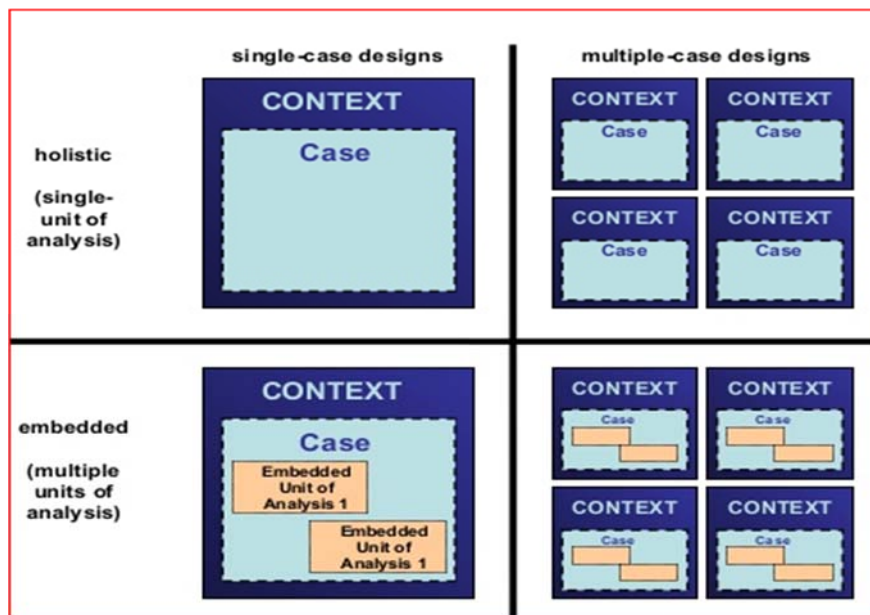


Figure 17 Single and multiple cases/holistic and embedded units of analysis (Source: Yin, 2009).

Single case study holistic and embedded: a single case study can examine a well-established theory and a set of specifically defined propositions from the theory being examined. Examining a theory and how correct the propositions are utilises a single case study rationale where it is used to examine, confirm and challenge the theory defined and support future investigation. A single case study is used when investigating an extremely rare phenomenon or a unique situation without any predefined patterns from previous cases or researches. In addition, single case studies can be used in an investigation of a phenomenon previously blocked scientifically through observations and analysing the phenomenon. A single case is used when an individual or institution are the sample which must be examined from different points of view so that it can be informative to the researchers. Finally, a single case is used when the researchers need to study the same case in different points in time in a chronological manner.

The risk in using a single case is having to develop a case which would deliver the needed outcomes at the outset of it. Finally, a holistic case design is used to emphasise the holism nature of the case with the inclusion of a global perspectives in the study which is like what the systems approach would be based on in choosing the unit of analysis. A holistic approach to case study is achieved when there are no specific subunits named for further analysis. Also, when the theory examined has a holistic nature. The risk is having the case on the abstract level of examining with no specificity in measurements. Moreover, the problem of having to suffer ambiguity in the topic of the case shifts a researcher towards answering different research questions than the ones studied.

Multiple case studies holistic and embedded: single and multiple (comparative) cases are variants of the same type of research method. Accordingly, multiple cases studies are more robust as a general approach to the research than single case studies unless a rare phenomenon is studied. Multiple case studies are like multiple experiments in terms of following replication logic but not sampling logic which is more suitable to survey-based research (discussed in the

below section). Accordingly, the researcher decided to adopt a multiple case study approach with a holistic unit of analysis in the form construction projects, because of the robustness multiple cases provide for theoretical replication and generalisation and the ability to examine the propositions across multiple cases.

4.6.1.6 Replication & Generalisation

Replication in case studies and experiments are similar where the outcomes of an experiment can be repeated if the same conditions were followed multiple times to replicate the outcomes which increases the validity of the first case and provides robustness for its outcomes. Some replications repeat the same conditions of the original experiment whereas other replications change some of the conditions and examine whether the results are the same. There are two types of replications a researcher can achieve; firstly, literal replication which predicts the same results if the outcomes of one case is replicated across multiple cases through keeping the same conditions. Secondly, theoretical replication which is achieved when opposite results are achieved for a known theory being examined. Replication is conditional on the development of a theoretical framework which predicts the behaviour and outcomes of each case, where it names when a phenomenon is achieved (literal) and when it is not (theoretical). A theoretical proposition is developed prior to data collection where this proposition acts as the theoretical framework to be examined through 3 or 4 cases studies, where 2 cases examine the proposition and the other 2 refute the proposition. Linking data to a proposition is done through pattern matching (including a no effect pattern or an effect pattern which are considered as rival propositions) (Yin, 2009).

A differentiation between replication logic and sampling logic is important where the former is an element of case study and/or experiment design as it depends on theoretical propositions to be examined; whereas, sampling logic is used on survey approaches and needs to consider the total pool of the population with a specific procedure to choose the subset of the sample with the resulting data of the sample perceived as a representation of the whole population. The differentiation is important because sampling is not suitable for case studies because cases are not designed to establish whether a phenomenon is dominant across a population or not. Case studies cover the phenomenon and its context which produces many variables that the case must deal with. Furthermore, the ability to generalise research results depends on the definition of generalisation which varies between statistical and analytical generalisations (Eisenhardt, et al., 1989).

The ability of the researcher to differentiate between the two types is amongst the most difficult challenges researchers go through when using multiple case studies. On one hand, statistical generalisation is less related to case studies, especially in social science, and more related to quantitative research because it depends on the deduction of results and applying them to populations. In statistical generalisation the sample must be random to represent the population. Quantitative formulas provide researchers with confidence about the generalisation. On the other hand, analytical generalisation is more suited to a case study research strategy where previously developed theories, theoretical tools or conceptual models are used as a template or a benchmark, with which the empirical results are compared. If two or more cases supported a certain theory and not their rival theory, replication can be claimed by the researcher. Analytical

generalisation depends on the level of maturity these theoretical tools or conceptual models have where the generalisation is achieved (Gillham, 2000).

4.6.1.7 Case Study Selection Criteria

Choosing case studies requires the development of a selection criteria based on the theoretical propositions developed during the initial stages of the research, the need for case replications' design and developing or examining theories. Selecting case studies can be a challenging exercise for a researcher when faced with designing case study research because choosing one case instead of another should be made purely to support the theoretical propositions which are designed to achieve analytical or literal replications and does not depend on the uniqueness of the case on its own. Developing such theoretical propositions early in the research is challenging especially when aiming at literal replication because if the outcomes varies the theoretical propositions are then revised (Eisenhardt, 1989).

4.7 Data Collection Methods

Saunders, Lewis and Thornhill (2009) defined research data as the data collected through primary and secondary sources to undertake a research. Hence, primary is data collected specifically for the investigated phenomenon by the research team where this data is tailored to satisfy the needs of the research and answer its questions. Researchers collect primary data suitable to a specific stage in the research (such as primary data for pilot studies) and select other methods to collect other types of primary data in latter stages. The inability to access primary data due to difficulty in getting the right individuals, offer time from their schedules and ask the right data can be a challenge to researchers. In addition, it can be expensive to obtain primary data because it might require travelling and equipment to collect and maintain the data.

Secondary data is data collected for another purpose, or other research and was not directly linked to the research project in hand. It is classified as written materials such as notices, shareholders' reports, minutes of meetings, correspondence and records in addition to academic data such as books and journal articles. Secondary data can be either raw data which have not been analysed or used, or it can be compiled data which received some form of analysis or processing. The advantages of secondary data are that they are easily obtained from the public domain and needs less resources to obtain because it is published by organisations, public bodies or previous researchers. The disadvantage of secondary data is that they only fit the purpose they were published for, and not the undertaken research and the data might not be accurate enough (which cannot be confirmed by the researcher) or biased based on the funder of the research (whether it is a public or a private entity).

Hussey and Hussey (1997) stated that there are different sources of primary and secondary data based on the research strategy and methodology. Primary data sources include: in-depth interviews, focus groups, survey questionnaires and direct observations. Secondary sources of data vary between public reports, governmental statistics, previous research and archival data. Accordingly, because SSM uses tacit knowledge of the participants in the problem situation suitable primary data source was interviews and focus groups depending on which phase of the

research is being undertaken. Moreover, the researcher decided to use focus groups in the pilot study and in-depth interviews in the case studies to collect primary data. However, Yin (2009) argued that triangulation cannot be achieved by using a single source of data despite the source being highly informative, wherein triangulations of data can be questioned. He stated that using primary and secondary sources of data achieve triangulation where secondary data, despite its disadvantages, can validate or refute the outcome of cases. Accordingly, the researcher decided to use document analysis as secondary data where public reports and archival materials were analysed in accordance with the research propositions.

4.7.1 In-Depth Interviews

An interview is a data collection technique which provides deep understanding and insights to researcher about the tacit knowledge of participants, and softer issues of the research. In-depth interviews are defined as conversations or discussions between two or more individuals with its main purpose being data/information collection for research purposes. Doing in-depth interviews before finalising the research questions and objectives helps researchers in confirming and finalising the research questions and objectives (Saunders, Lewis & Thornhill, 2009 & Robson, 1998). The advantages of using in-depth interviews as the data collection technique are: firstly, humans' use of language in interviews explains what lies behind the respondents' actions, feelings and values clearly. Secondly, interviews modify the information inquiry according to the responses the interviewer gets, whereby experienced researchers can change their questions according to the progress of the interview. Finally, interviews provide data-rich answers to the questions where the researcher builds an understanding around the context in which the phenomenon being studied lies and of how the interviewee sees it (Gray, 2009). Checkland and Scholes (1999) argued that the HAS modelling language utilises verbs in the imperative and that interviews are the method suitable for supporting the modelling language compared to other methods of data collection. There are three types of interviews, as Robson (1998) explained:

1. A formally structured interview is a form of questionnaire survey where questions are structured and used in a systematic approach and where responses to questions are listed and analysed in a quantitative manner.
2. Informal or free-range interviews are unstructured conversations between two or more individuals where the interviewees give their general thoughts about the research topic without any structure being provided by the interviewer.
3. Semi-structured interviews are the middle ground between formal and free-range interviews where interviewers prepare questions based on the literature review, the research questions and the research methodologies to investigate the research context by using these questions as guidelines for the interview but a level of flexibility is also maintained and it is possible to change the way questions are asked, to clarify any ambiguities to the interviewees and to tease out answers about the context. In semi-structured interviews questions are articulated before conducting interviews based on the broad areas of the research topic. Semi-structured interviews are used with qualitative research because they provide a deep understanding of the event, why, and how it happened.

Accordingly, semi-structured interviews were suitable for the primary data collected in the case studies because they provided a deep understanding of how SV is created and why is it being

delivered this way in the UK construction industry. Triangulations and data validity were considered through choosing multiple sources of data (interviewees with different roles) to investigate the same phenomena.

4.7.2 Focus Groups and Expert Panels

Focus groups and expert panels are two similar methods of data collection techniques wherein the former consists of participants invited as a group and guided by a group leader, or a moderator, to gather data about their beliefs and opinions concerning a study where participants are in a common situation. Participants are encouraged to express their opinions about a situation, event or service through creating group discussions which support individuals' confidence and encourages them to participate (Hussey & Hussey, 1997). Meredith et al. (1989) defined expert panels as a method of selecting groups which consist of experts based on their experience of a certain discipline and gathering them together to discuss an issue. The similarities and differences among the experts are recorded to analyse the reasons behind their beliefs. Opposite to Delphi techniques, the aim of using expert panels/focus groups is not to look for consensus answers for specific research questions but rather is to provide an initial insight about a phenomenon, its propositions, concepts and theories whereby expert panels can overcome the conflict of subjectivity which is suffered by the Delphi technique (Duffield, 1993).

Expert panel/focus group methods are suitable for the exploration and development of concepts in a research where they are often used by practitioners to explore a certain difficulty or when implementing a new managerial option (Saunders, Lewis & Thornhill, 2009). The use of expert panels aims to develop insights into the subject matter by analysing the opinions of experts to access implicit data which cannot usually be easily accessible (Schroeder, Scudder & Elm, 1989). Hussey and Hussey (1997) stated that a researcher using focus groups can combine both interviewing and observations at the same time and that they can be used in the preliminary stages of any study to gain an initial insight and to narrow the scope of the research progress. Kitzinger (1994) indicated that participants in focus groups will always have a distinctive feature which is a type of collective activities. Experts may be given a certain task or a set of questions to answer as a method to narrow down the scope of the panel, to focus exclusively on the subject matter and to overcome any time limitations that might exist. Depending on the number of experts, they can be divided into smaller more manageable groups to make sure that every participant can take part in the discussions. Different groups present their work and have a brief discussion about their ideas to name common patterns and trends. It is argued that it is desirable that experts express their opinions when the aim of the exercise is to produce a conceptual framework/model. Insight from experts with many years of experience of the subject can yield sound results and the researcher can analyse these into factors, and the themes and relationships concerning the factors affecting the phenomenon (Schroeder, Succder & Elm, 1989).

Moreover, because expert panels/focus groups involve individuals with experience and knowledge of the phenomenon being studied the most suitable sampling technique would be non-probability sampling based on the subjective judgement of the researcher and supervisor. Non-purposive sampling is most suitable for in-depth investigative research sampling where

the number of samples is small but can be informative to the researcher. In addition, purposive sampling was the most suitable when aligned with the research objectives. Out of the four different types of purposive sampling, homogenous sampling was chosen where a homogenous sample of a certain subgroup is studied in-depth and provides high quality data for the research (Denscombe, 2010; Saunders, Lewis & Thornhill, 2009).

4.8 Reducing Bias in the Research

Bias in research is the tendency to block unprejudiced views and influence the research outcomes to portray them in a specific view. Bias can be in different phases of a research such as in the research design, selecting participants, data collection and data analysis. It cannot be eliminated completely but can be reduced through utilising suitable research designs (Pannucci & Wilkins, 2010). Multiple types of bias were recognised by the research as threats to the validity and credibility of the research which were taken into consideration over the course of this research.

The first type of bias which the research considered was the selection bias where it was defined as the error developed through non-random sampling which causes some types of participants to be excluded from the research. Sampling bias occurs when the research is qualitative, and the validity of the statistical results will be distorted (Saunders, Lewis & Thornhill, 2009). Accordingly, because this research is a qualitative research which does not aim or claim to achieve statistical generalisation this type of bias is irrelevant. When selecting participants for the pilot study focus groups the researcher used non-purposive sampling guidance to represent all types of client organisations which were recognised in chapter three. As for selecting participants for interviews within the four case studies the researcher used the same approach and contacted individuals from the main stakeholders which this research viewed as influential to the SV context. Accordingly, for each case the researcher aimed at interviewing representatives of clients, construction frameworks (if they were involved in the procurement), main contractors and tier 2 suppliers where the participants were involved in the procurement of the project chosen.

Despite training in conducting interviews the data collected can still be corrupted or biased due to inadequate listening, inappropriate questions and/or lack of interpersonal skills from the interviewers (Partington, 2001). Hence, the second type of bias which was managed during the data collection phase was the respondents' biases which influence their attitude towards the research, the question and their interactions with the interviewer. Respondents' bias might create an 'unreal' version of an event or the reality the respondents experienced due to different reasons discussed below. Respondent bias varies based on different reasons hence below there is a discussion of what the researcher viewed as respondents' biases which might affect the research and how this was managed. Social desirability is the way respondents can answer the questions to be accepted socially by the interviewer or by liking every idea provided by the interviewer and their expectations which can be misleading and jeopardise the validity of the interview. This can be based on what is called the demand-characteristics effect of personal interviews whereby the interviewee thinks that he/she is demanded by the interviewer to respond in a specific way and thus they are not always reporting what they have experienced. This bias was considered during the interviews' design where the questions were constructed

to provide interviewees with no indication about whether there were any preferred answers by using 'how' and 'why' questions. In addition, during the interviews, the interviewer's gestures and responses as to how the respondents answered their questions did give any indication as to whether the answers were acceptable or not (Barribal & White, 1994).

The final type of bias is interviewer bias and how certain actions or approaches from him/her could influence how the interviewee answers the interview questions. Question order bias happens when a question influences how the interviewee answers subsequent questions where a change of questions' order can change how interviewees construct how events happened. Any research will have a level of question order bias, but it can be reduced when the generic questions are asked before specific, and positive before negative questions. The interviewer started the interviews by asking generic SV questions and on the organisation before going into more detail about the project or the case study. Questions were asked one at a time and probing was used to clarify each response (McFarland, 1981). Furthermore, leading questions and wording bias is a risk which occurs when interviewers attempt, during the interview, to summarise the interviewee's answer which risks the interview's validity because interviewers might use his/her language to summarise the answers which can be based on preconceived ideas about the phenomenon. To avoid that the interviewer used the same language being used by interviewees by tweaking the questions to suit clients, main contractors and suppliers and avoid summarising the answers of interviewees during the interview (Al Shenqeeti, 2014).

Finally, the researcher was aware of the confirmation bias which occurs during interviews when the interviewer confirms a proposition about the investigation because it was mentioned by the interviewee and dismisses other evidence which refutes his propositions. Neglecting to ask about evidence that would negate certain propositions can influence the responses of the interviews. Interviewers can reduce the bias through probing or through asking follow-up questions to clarify the meanings of what the interviewees meant and avoid confirming or refuting any propositions while the interview is on-going (Barriball & White, 1994). This was followed by the researcher through the focus groups and the case studies' interviews to reduce the level of bias and improve the validity and availability of the collected data.

4.9 Chapter Summary

This chapter justified the philosophical elements of the decisions taken, starting with the research methodology and how SSM could deal with ill-defined problematic situations, making it suitable to investigate SV and its complicated environment. Also, there was a review of the epistemological stance, in terms of social constructionism and the research abductive approach, where social constructionism was selected to accommodate SSM, because its core philosophy is that reality is socially constructed by individuals in problem situations. An abductive approach was chosen since creating theories is influenced by existing theories and emerging new patterns, and because describing a phenomenon includes the interpretations of the researchers who are influenced, even indirectly, by existing theories and developing theories (including the use of new patterns which are developed through the investigation). The research strategy chosen was case studies because this provided support to the systems thinking, appropriate for highly complex contexts and unclear situations. Finally, the research sources of bias and the actions taken by the researcher to reduce them were discussed. The above

summarized decisions are presented in contrast to the research strategies employed in scientific research showing clearly that this approach is not suitable for the research at hand. While scientific methodology is concerned with the identification of objective truth in highly controlled and therefore restricted settings, the research focusses on the understanding of socially constructed values in construction projects. Hence, this clearly falls out of the realm of scientific research. Based on the research strategies implemented in this research it was decided to use a multiple case study approach as the research strategy after examining the initial propositions in a pilot study. The study used semi-structured interviews and document analysis to collect data and analysed the data using a qualitative content analysis approach. The data collection and analysis took place between 2015 and 2017, and the field work was done in the North West region of the UK.

Chapter 5 Piloting the use of SSM in Investigating Social Value in Construction Project

5.1 Chapter Introduction

This chapter pilots the use of SSM to investigate SV creation and to examine the suitability of both its streams of inquiry to the construction projects' context. Secondly, this chapter examines how the initial propositions and the factors discussed in chapter three influence SV in the construction projects' context from the construction clients' perceptions. This is expected to create a clear understanding of how client organisations perceive the creation of SV within the procurement of their projects. Thirdly, through the pilot study, this chapter is expected to construct the process which encourages construction clients to reconsider how they perceive SV within the procurement of their construction projects. Finally, this pilot chapter builds an understanding from the clients' perspective about the stakeholders who influence the decision making around SV within construction projects. Participants were chosen from construction client organisations as the problem solvers from an SSM perspective where client organisations lead SV creation. Client representatives were chosen to represent the construction client types discussed in chapter three using homogenous sample logic according to their role in a client organisation. Chapter five is structured as follows:

1. Pilot study design
2. Field Work Description and Structure
3. Generic Design and Construction Process Protocol
4. SVAZ Process Development and Validation
5. Revisiting Propositions
6. Case Study Selection Criteria
7. Chapter Summary

The pilot study collected and analysed qualitative data to produce rich pictures that describe the problem situation and to produce the Consensus Primary Task Model (CPTM) which is the conceptual model based on the HAS modelling concept. After developing the CPTM the researcher used the Generic Design and Construction Process Protocol (GDCPP) which project teams use to breakdown HAS models into activities which are plotted against construction project stages. Ultimately, the SVAZ process is introduced which improves how SV to be dealt with as a core objective of construction projects.

5.2 Pilot Study Design

A pilot study is a small-scale methodological research conducted to prepare for the main study to ensure that the ideas and methods, put in place by the researcher are suitable (Yujin, 2001). hence, a pilot study is intended to take place in the beginning of the planned research (before the main investigation) whereby it provides the opportunity to adjust the main study before

starting it. Pilot studies can be used on both ends of the qualitative research spectrum which includes social constructionism thus contesting the argument that piloting is useful only for positivist research (Kezar, 2000). The research process (which includes applying the methodology, the strategy and the data collection techniques) can benefit from a pilot study because it provides researchers with the time and opportunity to undertake examining before going into the field for the main investigation. Therefore, any methodological or epistemological issues that arise during the pilot study can be dealt with before the main investigation starts (Yujin, 2001). Sampson (2004) argued that some pilot studies were eye openers providing more input than the researcher expected about their initial propositions and how they designed their research. Accordingly, advantages which encouraged the researcher to conduct a pilot study before the main were as follows:

Researcher understanding of the topic being studied: Kezar (2000) argued that there are three approaches towards knowing a research topic. Firstly, there is contemplation or present-at-hand which means that individuals undertaking the research are detached from the topic, have not developed any perspectives about it and have no interaction with it. This stage is a researcher's basic awareness of the topic which occurs before any intent of studying. Secondly, there is circumspection or unready-to-hand which is where the researchers start noticing the conflicts, intrusions and obstructions to the topic and it is where the gaps between theory and practice become clearer to the researcher. This stage occurs when researchers start building an understanding of the topic, uncover the gaps in the knowledge, and choose the areas of investigation. This stage is the literature review before any fieldwork occurs. Finally, there is the third approach which is the participation or ready-to-hand when the topic is clear, and researchers become more involved in the activities of the topic through field work and interacting with practitioners. Based on the first two stages, the researcher investigated the gap instilled from the literature as the research progresses and turns to fieldwork to fill these gaps. Accordingly, the pilot study contributed to the researcher's knowledge of a topic, which exceeded the theoretical knowledge from the literature because of the practical interactions with participants of the pilot.

Researcher ability and experience: Pilot studies can be used by a researcher to self-evaluate their ability, commitment and readiness as researchers. It can be used to train researchers especially if they are new to the topic or the methodology (Breen, 2006). Unless someone is totally alien to a topic, they will have a level of understanding whereby the repetitive interaction with the topic builds up the knowledge and clarifies any ambiguity a researcher might have about it. As a result, the pilot enabled the researcher to overcome the challenge of researching a new topic to the researcher and build up their experience of it beyond the literature knowledge (which comes with hesitation and hunches about the research validity) (Kezar, 2000). The pilot studies enabled the researcher to uncover key areas about SV which were not thought of during the research design stage, which influenced the research scope by narrowing it down.

Data collection process quality: Breen (2006) argued that pilot studies can be extremely beneficial for research because they can improve the quality of the data being collected, can provide an understanding about the type of questions and how they are perceived and, if the outcomes do not vary significantly from what was planned, the researcher can use the pilot

studies data as part of the main data that are collected. Yujin (2001) stated that the challenges researchers might have in recruiting participants might not be clear before trialling such recruitment and pilot studies provide the opportunity to undertake this. Tight schedules or the inability to convince individuals with certain roles to participate might be the reasons why researchers cannot recruit participants and whether the case can be difficult to detect without trials. In addition, it is difficult to predict how participants respond to questions or understand discussions especially if the discussion or question is interpreted according to the participant's personal values, norms and experiences, thus making piloting an integral part of applying qualitative research (Hennink, 2007).

Examine the research process: If the research propositions and/or questions are unclear during the data collection process and engagement with the participants is of such a level that it would hinder the research, the researcher would be forced to revise their data collection methods, participants and questions mid-way through the data collection process which can be costly and time consuming. Hence, examining the research process in a pilot study enables researchers to locate gaps or to modify their research process to achieve the research objectives and answer research questions. Most research strategies, such as case studies and surveys, use piloting to trial their approach by the researcher, the success of the data collection methods and the outcomes or conclusions (Gray, 2009). In this research it was important to pilot the SSM, data collection techniques and improve the propositions before engaging in the full case studies.

This pilot study was not designed to provide the main results; therefore, it was neglected after providing what it was set out to do because the results were not reported. Also, because of a lack of reporting on pilot studies, some researchers do not apply these studies with rigour because, as the researchers justify it, they only involve a small sample of the research because the researchers perceive the pilot studies' main role as only informing the main study. In other cases, some inexperienced researchers tend to overlook pilot studies just because they lack an understanding of their benefits, but researchers can sometimes regret not using the pilot studies after initiating the field work (Sampson, 2004). Accordingly, the researcher used a pilot study at this stage of the research through focus groups aiming to achieve the following:

- Examining the suitability of SSM to the research design was undertaken by applying both streams of inquiry within the focus groups through two exercises. The cultural stream of inquiry was applied by suggesting a scenario of procuring a construction project in multiple groups and discussing the context and what would influence the decision making of the representatives and how they thought about SV within the scenario. The logic stream of inquiry was examined by analysing participants' responses to the questions' design to construct HAS models and their CATWOE elements. In addition, the pilot aimed at examining how the data could be collected and analysed throughout the research and whether the questions' design was providing the data suitable for the methodology.
- The pilot study aimed at understanding the factors which influenced construction projects and the SV context from client organisations' perspectives and establishing whether the factors discussed in chapter three were similar to what the clients viewed as influencing factors on SV in construction projects.

- From the construction clients' perspectives, the pilot study aimed at understanding the key stakeholders who influence SV decisions in construction projects. By understanding who the influential stakeholders were, the researcher could include them in the main study and include how they: approached SV within their projects and deal with their other stakeholders and whether they shared the same perspectives about SV as the client or not.
- Through the pilot the researcher expected to develop the process which actors from construction clients can use to recognise the complex factors and different perspectives when they procure construction projects and aim to create added value.

5.2.1 Recruiting Participants

Participants of focus groups are not chosen based on sampling logic, which is used when statistical generalisation is aimed at; they are recruited based on the characteristics they have, and their awareness of the topic being studied (Hennink, 2007). When focus groups are designed to research a certain topic it must include participants who have experience of the topic application. Accordingly, the client organisation participants had experience construction procurement and SV creation. In focus groups, participants were chosen to deliver a rich discussion, therefore, they are chosen according to the research objectives which, in this research, meant that the focus group participants were client organisations' representatives. Sampling is used in quantitative research where large samples are chosen randomly and then a conclusion is applied to the general population of the research. On the other hand, qualitative research depends less on random sampling because firstly, in qualitative research, participants are smaller in numbers which, if subjected to sampling when chosen, results in errors if the objective is to generalise to a wider population. Secondly, the aim of qualitative research is not statistical population (as with quantitative research), it aims at developing an in-depth understanding about characteristics which represent an unknown population. Thirdly, participants in qualitative research might have more experience about the subject matter than most of the population which is why they were chosen to take place in the research (and thus will provide information which random sampling would not be able to provide). Therefore, qualitative research participants are recruited purposefully because the aim is to understand (and not infer) and to provide insight about people's views and not produce statements about populations. Recruitment is made by enlisting individuals who possess attributes which are related to the research topic and lead to more in-depth understandings and insights.

Gray (2009) classified non-probabilistic sampling as purposive sampling which is defined as the deliberate selection of a subject against one or more traits that are of interest to the researcher which assists in answering the research questions and achieves a cross-section of the population. The disadvantage of this approach is that the researcher might be biased or neglects a certain trait when choosing subjects. Saunders, Lewis and Thornhill (2009) added that the researcher uses his/her judgement in choosing the subjects who are best able to answer the research questions and provide the required insight. This type of sampling is used with small numbers of participants in research utilising case studies and focus groups of informative people. The initial sampling enables researchers to understand what type of sampling they need to target or recruit in subsequent stages. In this research, the themes and data collected discussed the characteristics of the participants who should take part in the case studies.

There are multiple types of purposive sampling that are used depending on the research questions and the time and resources available for the researcher. Two types of purposive sampling were used in this research, which were the most suitable for the stage and the objectives. Firstly, homogenous sampling was utilised which is defined as the selection of participants from one specific subgroup where all the participants are similar and thus enables the researcher to study the subgroup in depth. This type of purposive sampling is popular in focus groups and expert panels; hence, it was used for the focus groups of the pilot study. Secondly, there is heterogenous or maximum variation sampling which is defined as selecting individuals from contradicting or heterogenous groups to explain a diverse range of themes for the research. The level of sampling variation depends on the research and requires prior investigation from the researcher about the themes and patterns they envisage. Accordingly, the researcher used his experience of the SV context and involvement with client organisations in the North West region to recruit participants from client organisations who were involved in construction procurement but had variable views on what SV for their organisations can be. The researcher was guided by his supervisor through the recruitment phase to diversify the participants as much as possible and to involve different types of clients in the pilot study.

5.3 Field Work Description and Structure

Construction clients were perceived as the most influential stakeholders and the ‘would be improvers’ in SSM terms in the SV situation in construction projects, as mentioned in the initial propositions in section 3.6, the sample was chosen from client organisation procurement management positions with experience in the methods of delivery. The sample of the client representatives was chosen as a heterogeneous purposive sampling to investigate their experience of SV. Levander et al. (2011) argued that clients lead stakeholders in implementing change throughout entire sectors using their delivery processes. In addition, Alinatie (2008) noticed that contractors, despite having different opinions concerning clients’ performance and responsibilities, seek to satisfy clients to win future work and to avoid being blacklisted or rejected from working with the same clients again. Therefore, and following the purposive sampling discussed in the previous section, it was decided to choose procurement officers and strategic procurement managers to represent public and a private client on expert panels/focus groups. The basis of the choice was made on factors, as shown in Figure 18, wherein representatives of experienced, and partially experienced clients, with their business classification being based on them being public or private and primary or secondary were chosen directly. However, due to an inability to invite inexperienced clients directly it was decided to invite two framework agreement representatives who have delivered a high number of projects for inexperienced clients.

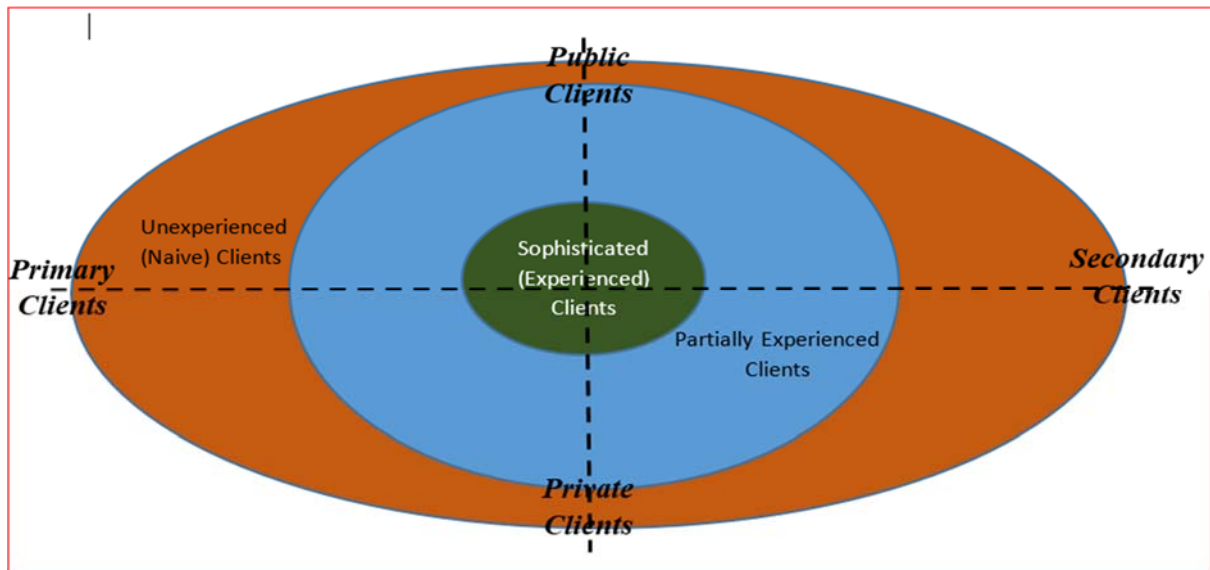


Figure 18 Construction client classification based on experience, sector and accountability.

Clients representatives from different sectors who were involved in procuring different types of construction projects were invited in selecting purposive sampling within the expert panels, the researcher invite participants from the North-West region of the UK wherein access to the individuals, convincing them to participate and to report on their experiences, relied on the professional relationships of the supervisor. In total, 22 participants participated in the expert panel/focus group exercise and they were distributed, as shown in Table 7, based on their organisational position, level of experience, sector and whether from a public or private organisation.

Technical (Economic) Infrastructure Project Providers	Service Provided	Experience Sector Business	Social Infrastructure Project Providers	Service Provided	Experience Sector Business
<u>Client 1</u> 1 Procurement Manager 1 Contract Manager	Water supplier (network service)	Experienced Private Secondary	<u>Client 6</u> 1 Procurement Manager	Political, Educational and Cultural Services	Experienced Public Secondary
<u>Client 2</u> 1 Programme Manager	Rail services (network service)	Experienced Public Primary	<u>Client 7</u> 1 Head of Development 1 Infrastructure Programme Director 1 Operations Manager	Housing, Education, Health and Leisure	Partially-Exp. Public Secondary
<u>Client 3</u> 1 Strategic Manager	Nuclear services (engineer intensive)	Experienced Public Secondary	<u>Client 8</u> 1 Programme Consultant	Housing Service	Experienced Public Primary
<u>Client 4</u> 1 Construction Director	Energy and Utilities (network service)	Experienced Private Primary	<u>Client 9</u> 2 Procurement Managers	Fire Services	Partially-Exp. Public Secondary

<u>Client 5</u> 1 Managing Director	SV Consultancy	Consultant to Public clients mainly Local Clients	<u>Framework 2</u> 2 Framework Managers (Added value & KPIs)	Multiple Social Infrastructure Procurement Vehicles	Naïve Public Secondary/ Primary
<u>Framework 1</u> 2 Strategic Director Procurement & Regeneration	Multiple Social Infrastructur e Procurement vehicles	Naïve Public Secondary/ Primary	<u>Client 10</u> 1 Head of Strategic Procurement 1 Procurement Officer	Housing, Education, Health and Leisure	Partially-exp Public Secondary
<u>Consultants</u> 1 Performance Manager	Construction Research Centre	Experienced Client Consultants	<u>Client 11</u> 1 Construction Manager 1 Head of Procurement & Regeneration	Housing Education Health & Leisure	Experienced Public Secondary

Table 7 Client participants and their sector and industry background

5.3.1 First Exercise of the Focus Groups

The participants freed their schedules for one working day for the event (on 7th July 2015) with enough time for thorough discussions and debates amongst themselves. Accordingly, the researcher designed two exercises wherein the participants could interact and give their own ideas and beliefs about SV in construction projects' context. In the first exercise the participants were split into four groups with two groups having five participants and two groups having six participants; each group was a mix between clients and consultants. To tease out ideas, trigger the discussion between them and remove the barrier because of their different backgrounds, the focus groups were asked to approach the discussion through a scenario which was a construction project they were required to deliver and to include SV creation in their delivery plan. Suggesting a discussion about procuring a construction project provided a common area among the four groups and the including the internal and external factors affecting public construction projects (which were mentioned earlier in sections 3.3 and 3.4) whereby the researcher suggested the scenario would be on a publicly funded construction project in the North West which was an area all the participants were familiar with.

Procuring a project as a topic of discussion provided controlled conditions which was following the suggestion of Blaikie (2010) who argued that replicating a real-life situation to investigate social behaviour in a controlled environment (where some variables are constant) to depict the outcomes can lead to a better understanding of the phenomenon. Hence, it was assumed that a high value project was being procured in the North West region with significant construction and design features. Each group had a building procurement team role with the duties of choosing contractors, defining outcomes to create SV. During this exercise a moderator was stationed with each group with a drawing board which was utilised to capture the perceptions of each group and draw how they envisaged the procurement of the project and how they thought about SV in the form of a rich picture. Such an approach was mentioned by Berg (2014) as providing an opportunity for the participants to draw their own rich pictures and to support their participation. In addition, a list of questions was provided to steer the discussion, assist the moderator in maintaining a set time and making sure the propositions were covered. The

moderators were the researcher and three fellow PhD candidates who were briefed about the research topic, the focus group exercises and the research methodology. The questions below were used in the focus groups to see how participants perceive them and whether the researcher needed to adjust them or not.

1. Who are the stakeholders affecting decisions about SV in construction projects?
2. How can the SSM encourage client organisations to reconsider their approach towards SV?
3. How many tiers downstream in the supply chain understand and create SV?
4. How different types of projects deliver outcomes and claim to create value?
5. What are the internal and external factors which generally affect SV?

The discussions on the four tables were audio recorded which had been consented to by the participants as mention of this had been included in the invitation letter. In addition, the moderator informed the participants of each group before starting the usage of the audio recording devices. The researcher used the audio recording to generate themes about the SV delivery process which were aligned with the propositions and the research questions. The audio recordings of the aforementioned four groups were used to generate a rich picture to describe the problem situation (a reality description based on the researcher's understanding of the SV from the clients' perspectives) of SV.

5.3.2 Thematic Analysis and Rich Picture Building of the Focus Groups

Thematic analysis for qualitative research is the fuzzy abstracts researchers construct before, during and after data collection about their research topic. Before data collection themes emerge from the literature review where rich literature reviews produce rich themes, the characteristics of the research phenomenon, the researcher's own experience and values about the topic. Social sciences look at data as a symbolic phenomenon which means that data can be looked at from different perspectives and that there is no straightforward approach to analysing it. In qualitative research thematic analysis can be the interpretation of the text being analysed into codes or themes based on the meaning of the text within the context of the research. A theme is the pattern perceived in the data in which the researcher is interested where the themes can be manifest (clear) or latent (hidden), and for a rich analysis, researchers need to understand the latent themes from the clear noticeable ones. Coding or creating themes can be a mix of deductive coding and inductive coding based on the researcher approach where ideas can be brought from the literature or from the raw information where analysis is more in depth if both coding types are utilised. Codes/themes need to flow from the principles of the researched phenomenon and provide answers to the research questions (Joffe & Yardley, 2004).

Accordingly, the pilot study, as mentioned in section 5.2, was answering questions about the key stakeholders influence on SV, the factors affecting how SV was perceived by the client organisation representatives and the SV challenges for client organisations, and these aspects formed themes to look for in the text which were based on the literature review in chapter 2 and 3. Hence, these formed the three main themes to look for in the data.

1. Stakeholders influencing project decision and SV creation
2. Factors affecting SV decisions within the project
3. SV challenges to client organisations

The researcher started reviewing the discussions and adding these major codes/themes by looking at what participants said and highlighting them. Then the researcher carried out a new iteration of coding by looking for new codes within each of the three major codes where these codes were considered abductive themes. This approach was explained by Joffe and Yardley (2004) as ‘Fusing’ where the researcher grouped these new themes under the major themes to create a powerful theme to provide an in depth understanding of these major themes. The new themes linked to each of the major themes were as follows:

1. Key Stakeholders and their Perspectives on SV Definition had the subthemes below linked to it:
 - A. Client Role
 - B. Contractors’ Role
 - C. Suppliers’ Role
 - D. Types of Project Outcomes which create value
2. Factors affecting SV decisions had the following subthemes:
 - A. Compliance with Procurement Rules
 - B. Design and Construction Characteristics
 - C. Organisational Champion’s Role
 - D. Challenges in creating SV
3. Social Value Challenges to Client Organisations had the following subthemes:
 - A. The impact of construction projects’ added values
 - B. Client organisations’ perceptions about SV assessment

After producing the themes and subthemes the researcher started interpreting what the participants had to say about each theme and analyse what the text meant. Following Al Shenqeeti (2014) the researcher started constructing meaningful units from the transcripts where sentences with certain meanings were marked and then classified under matching meanings. This approach is where the new themes emerged through the analysis because matching units of transcripts with new meanings which were not constructed through literature constructed the new themes. The four groups produced figures on their boards which were analysed to construct the consensus of each group and what they thought was important to SV. Finally, a single rich picture was developed by the researcher to provide a capture of reality which would attempt to incorporate different perspectives from the four groups.

5.3.2.1 Key Stakeholders and their Perspectives about SV

The perceptions of stakeholders taking part in construction project and their political powers in the project: As with the stakeholder classification provided in section 3.5, the focus groups saw clients as the key stakeholders with the influence and power to affect decisions about SV and the project outcomes. Clients have the capacity to influence the whole supply chain and the decisions taken if they use their bargaining power optimally. An experienced client stated that:

“if we choose to go about it open we can choose to put it in an ITT or contract terms because there are different ways that we normally look at that so if we went open we could choose.”

Another client representative argued that the client influence on SV is impacted upon by different attributes which might be controlled only by the client organisation:

“as a client, how much money do we have, how much time do we have to deliver the project and what are you going to procure through is open tendering or frameworks.”

In addition, main contractors, from the clients’ perspective, have a high influence over outcomes which can create SV through attempting to satisfy the requirements of their clients. Main contractors could create SV if the outcomes needed were sensibly planned and managed and if they are able to choose, with the clients, the most suitable form of outcomes to be delivered and, at the same time, influence subcontractors to include SV in their plans as well. A local authority client stated:

“Main contractors who know the local context and have experience with SV will be able to deliver it through either open tendering or framework agreements if the client asks for SV delivery.”

“If a main contractor is delivering in a particular locality they may have the obligation to that location such as training or employment or whatever that might be based on the guidance they have from the client.”

However, main contractors were sceptic about the cost these outcomes had from their point of view and how it would increase the cost of their work. Generally, they felt it was something that if they were not interested in they would not engage in once the contract was signed.

“The director at the A contractor would always ask who is paying for this. Who is paying for SV?”

“I think this is one of the areas going forward is paying for SV. With government projects we’re getting cuts to funding with the things that need to be delivered for less but at the same time they still want as much as they can get.”

Furthermore, tier two contractors take part in creating SV as well; however, they are controlled by the demands of the main contractors which are transferred down to them. The groups indicated that beyond tier two contractors or further downstream the supply chain companies are not equipped with the capabilities to deliver outcomes as they generally have shortages of financial and managerial resources to deliver such outcomes.

“Tier 1, Tier 2 can be contracted to supply local work and deliver specialist contracts.”

“The tier one, the principle contractor, might then employ a consultant to design the windows so the tier 2 might be the consultant and the tier three might be the supplier of the windows so as you go down the tiers the value is divided on the tiers with level two and level three having less influence on SV delivery.”

As for local populations, they have a high interest in the outcome of the project but may not have the ability to significantly influence the decisions made by clients or local authorities. A client from group 2 stated regarding local populations:

“they are not stakeholders in the formal sense however they influence as well but without having any direct authority over the institution that is buying.”

Conflicting perspectives between clients and main contractors: In the process of defining outcomes, there are conflicts between clients’ and contractors’ perspectives about what outcomes are needed to create value whereby these conflicts can impact upon the outcomes because the origin of these conflicts is the opposite cultures and business model between clients and contractors. Client organisations aim at delivering long-term benefits for their local communities (which often exceeds the original duration of the construction phase) to tackle a community’s social issues more strategically and to leave an impact on individuals as values they create. Local authorities, as construction clients, are rooted in a certain area and have a deep knowledge of local communities’ issues, needs and social problems which can be improved with the inclusion of SV in their construction investment programmes.

“Because the client said to the contractor these are people that we are serving and if you do not have a plan to serve them we are not going to accept this, and it is sort of getting the contractor to commit more to SV.”

“The opportunity for SV the local client they have got an ideal opportunity for SV because in that community they are not moving around, and we forget that contractors go from one place to another.”

On the other hand, contractors view SV as an extra outcome and one that is limited to the duration of the construction phase; in their perspective they are not responsible for maintaining an exercise after the finished project. Contractors do not maintain a long-term relationship in a certain area after the construction is finished but engage in SV to promote their business and win work. Construction teams are constantly moving from one site to another without being able to have deep knowledge of certain communities’ social issues and how they could improve them. From group 2 a client stated:

“.. also, an important point is a contractor’s commitment to this because some of them embrace SV and want to get into it and some of them are doing it to get the job; they are doing it to get an advantage to win work.”

When the project manager arrived, he was not part of the bid and said that cost I do not need and I can get a bonus if I save that much money so this is affecting my bonus, so the guy was going to do it on time and within budget, but he had no appreciation of why they won the job.”

“We are only ten months into this job. There must be an intelligent approach from the client to recognise how to sustain people in their jobs.”

The early intervention of clients to investigate and create SV guarantees that the client will have leverage to negotiate and properly plan the delivery of value creating outcomes: Having consensus amongst most of the participants and key stakeholders, in defining and choosing the timing, is key to the success of the delivery processes. Participants argued that the early planning and intervention of clients in the means of defining what form of outcomes they might need, in choosing the strategic procurement route which is fit for their purposes, and in selecting team members who can implement their plans needs enough time to be fulfilled properly. Despite the different levels of experience of clients, the timing of such an intervention is key to enabling them to leverage their position and in negotiating their terms of delivery with their potential supply chains. Even for unexperienced clients offering enough time early in the project (which might be preconstruction and in some cases pre-procurement) enables them to partially compensate for their inexperience by being able to investigate different solutions for their issues and problems.

In addition, intervening early with an SV approach might encourage clients to solve any rooted problems in the defining of financial sources to cover the expense which might accompany the delivery of outcomes. Creating SV, in most cases, was perceived as costly and confusion often surrounds justifying its cost and securing its financial sources; clients with more time can define the SV and apply for grants based on the type of outcome they are delivering. Public grants are available for local authorities to fund apprenticeship; training and employment programmes and clients with enough time can win such grants to help fund their SV outcomes.

Three forms of outcomes were the ones perceived as the main outcomes which can create value to the client: The evidence showed that the three main forms of outcomes that clients have in mind for a certain project are similar to what has been discussed before: firstly, the inclusion of apprenticeships and training programmes for people aged 16-24 to undertake a fulltime career in construction.

“apprentices and training programmes where developers are committed to future programmes and invest in the community to get these benefits.”

“local apprenticeships are among the outcomes that you would want from your project.”

Secondly, employment and fighting poverty through the scenario was highly regarded, despite the project being a prison with the negative impacts such a project might have on local areas. The local context has a role that impacted the outcomes that can be delivered.

A client supported this by saying: *“instead of building cycle tracks and employing people, let us employ people and then build some cycle tracks so you can choose a contract and deliver a project that can actually be a different way of delivering.”*

“Think of the local area and how they might be suffering from unemployment, local population with offenders based on the locality.”

However, clients thought that if local populations accepted the construction project as being part of their area it would provide jobs for them together with all the economic movement which such a project might create for the local markets. A group 2 framework representative stated,

“I would imagine that if there are operations in addition to refurbishment there is going to be an opportunity for employment after the construction which is considered to be a SV element to the community once the construction project is completed. There are also types of roles that can be incorporated to be sustained once the project has been constructed such as facilities management.”

Finally, using local suppliers was viewed as an important outcome from the project scenario in terms of SV creation wherein supporting economic growth for a certain area requires an amount of investment to be made in this area in order engage local SMEs who are responsible for a high percentage of employment across the UK.

“local communities might need local suppliers to be employed as specialist contractors and facilities management being procured locally for that work.”

“suppliers of materials and that sort of work can be hired from the local market in addition to modular type of contractors.”

How outcomes perceived by the clients to be suitable for local populations are transferred from local authorities is an issue: If local authorities are not the direct clients of the construction project, there should be a method to transfer knowledge about local communities’ needs from local authorities (which are well informed due to their long-term relationships within the community) to the clients. In some cases, this could be done by communicating with these business units within the local authorities which have the data and know-how of delivering local regeneration plans and thus can provide a mechanism to articulate needs to the contractors. It was discussed earlier, when looking at the literature review, that the SV Act and planning permissions used to plan SV were vague and apparently unsuccessful. A client from group 2 supported that by mentioning;

“One of the key things for me is to talk to people running the boot camp as to what they thought young people wanted and not just picking contracts where essentially social benefit was negotiated between government procurement vehicles and none of them knew anything about SV or what they can achieve so what they came up with was some jobs that nobody wanted. So, to understand what the contractor delivers it has to be from a programme of activities.”

When using one of the regional frameworks which has already passed the OJEU rules and regulations, the mini-competition method was the method of transferring local communities’ needs to contractors and clients offering more flexibility for clients to articulate in a relatively free manner what the clients required. A client in group 1 stated that:

“frameworks of any client would have something like a mini comp which would have a scoring mechanism which would usually be something weighted for SV. It varies, it could be a fire brigade, a local authority and what is your definition of SV and all this stuff, but it can be used to deliver SV.”

“Frameworks would have a ‘allocating’ perhaps strategy that has to comply with SV requirements, so it would have a Small to medium Enterprise (SME) policy, early engagement policy and training and development local contractors so that contractors can deliver to the standards.”

5.3.2.2 Factors affecting SV decisions within the Project

Compliance with EU public procurement rules and regulations – the understandings of partially experienced and inexperienced clients: Most of the experienced clients were aware how to create SV and be compliant with EU procurement rules and regulations. They could choose the procurement routes which, from their points of view, could enable them to deliver outcomes for their investments that would add value to their local population. A client from group 1 stated:

“when using frameworks or open tendering you can put requirements as part of your planning permissions. You would say you have got to deliver SV as part of the permissions.”

A client’s ability to ask for the utilisation of local agencies who promote local employment and training programmes was not very popular amongst the partially experienced and the unexperienced clients, despite it being legally acceptable.

“when developers are building a state housing they have got to put some community services to the local authorities as part of their business plan.”

Another client added *“local governments in planning have an impact on what SV outcomes that can be delivered”*.

There was a consensus among clients that applying for funding and grants as part of financing the project would require a fast track procurement choice leaving limited options for clients to go through a shorter route for procurement. Partially experienced and inexperienced clients seek the assistance of consultants to choose their procurement route, thus depending on the level of consultant awareness as to how clients would be able to deliver outcomes. Councillors and politicians have an impact on how public money is spent to serve their local communities. A client mentioned that,

“we as clients are faced with questions where is the funding coming from, and is it internal funding? Is the EU funding this one or is there anything in the funding that would actually say this is the way to spend it all?”

“I think the North West is the hot bed for European type of stuff because also we have a few councillors in A and B and they are interested in what this money can do for their local communities and how that is benefiting their areas rather than just B”.

Design and construction characteristics were among factors affecting outcomes and SV creation: The design features of projects have an impact on SV wherein specialist work was can lower the opportunities to employ local suppliers/workforce who do not have the experience of, and the knowhow for, specialist work. One client from group one mentioned that:

“if it a project with, for example MoJ, they have strict specifications so the ability for instance of local businesses to pick up specifications such as the delivery may well not be possible which is why I see frameworks not being able to assess these pre-qualifications.”

However, breaking down packages enables the employment of local SMEs despite the specific design features which requires specialist contractors. As a form of outcomes delivery, all groups recommended that construction packages could be broken down into smaller packages wherein specialist works is equal to generic works’ packages. A client clarified that:

“some clients go through a huge process of standardisations, so they have a standard modular unit, for instance, which does lend towards frameworks that lend themselves towards manufacturing and can be more of generic packages of work”.

Another client from group 2 added that:

“We need to look at the components of the work phrasing doesn’t really make sense as it stands here. Did they really say it like this, you can divide the contract if you wanted to do SV into bits and look into the sensitive facilities that requires specialists?”

This can be undertaken to balance between a project as an artefact being produced as a construction product (which might need special experience and works to be developed) and being able to have SV outcomes from other works’ contracts which might not require special expertise. Two clients discussed the purpose of breaking down work either contractually or as packages saying:

“What do you mean by saying to separate contracts, is that a way including people who needs rehabilitations to be involved. Yes, whether you can divide it as lots or just as separate contracts it is an opportunity to employ people who may not be able to find work with specialist contractors.”

The use of a SV champion influences the delivery outcomes especially when there is a conflict between client and contractor perspectives: Despite the consensus that there is not enough guidance for clients about methods suitable for delivering outcomes, most of the participants agreed that the presence of an organisational champion promoting SV would enable client organisations to deliver their expectations. They claimed that SV champions can

ease creating value even if the methods of delivery are missing. A champion can use his/her political influence at an organisational level and should be able to provide solutions to problems which might face project teams. A SV champion with significant experience of SV advantages and disadvantages can simultaneously educate the client and the supply chain organisations. Most participants claimed that the existence of a SV champion depends on the client organisations and their influence on stakeholders to provide an individual with the characteristics necessary to deliver outcomes.

“it comes down to who is able to identify the champion who is able to lead and influence the delivery, where it is up to the client to really push it and if they want it they need to be driving it and identify who is going to drive within each organisation so if you have a contractor who is going to do the work in the actual project.”

5.3.2.3 SV Challenges to Client Organisations

Assessment depends totally on the first two steps of SV which are definition and delivery: Clients indicated that the measurement and/or assessment of outcomes delivered through public projects depend mainly on the form of outcomes to be delivered. For example, using economic local multipliers was used by experienced public contractors to track where the investments they made landed and this was a method to improve the delivery plans for future projects. Reporting of the activities which lead to adding value is among the SV measurement processes.

“there is actually the direct spend which multiplies out. We use LM3 spend time tracking spend. We look at the money that went into the contract and we look at what happened to this money so, for example, our most scoring contractor was the insulation contractor because they are local employees and there is not much design so most of the contract is procured locally.”

“Local people have local families, mortgages, making sure the majority of that money on the second round is spent locally but at the third round it is challenging to capture because it does not work particularly well.”

Nevertheless, there was a lack of full understanding of the assessment methods and how they can be chosen wherein there is a struggle to provide the resource to carry out the measurement activities which is considered, almost all the time, a cumbersome task.

The focus of the project was on the definition and implementation of outcomes: The definition and implementation of outcomes occupied the main discussions of the focus groups because of the importance that defining and implementing holds for client organisations which is a cumbersome task and challenges their ability to claim the creation of value. The assessment of outcomes is still not sophisticated enough to accommodate the different values client claim to have created from the projects' outcomes. However, planning and delivering these outcomes is what leads to a proper choice of the measurement tools and techniques, thus, the client procurement officers can justify their decisions properly.

5.3.2.4 Summation of the Four Groups

Group 1 captured the relationships between the different organisational entities which are responsible for defining SV and linking it back to their strategic vision of SV. This group

presented the way money is spent, how contracts are setup for delivering outcomes and how supply chain members are involved. Rehabilitation was viewed by clients, from local context perspectives, as a form of SV which can be delivered as a much-needed outcome of the set imaginary project which means that clients can recognise what specific SV might be best for their local communities. However, the way local authorities are used to promoting SV is via using section 106 of the Urban Planning Act; thus, as the main method of transferring local population needs if clients are using traditional procurement, whereas using long term relationships through frameworks' clients can create bespoke terms for their local communities' benefits. When delivering outcomes an organisational champion can be key to successful delivery. Regarding measurement of value created this group felt that it basically depends on the choices made earlier in a project. Local multipliers were a method of supporting local businesses where the results can be used to manage local expenditure. However, they felt that SV measurement depended mainly on the definition and implementation phases. Appendix A shows the Rich Picture put forward by all four groups and their analyses.

Group 2 examined aspects and attributes in relation to the SV created through this project. The discussion concerned the definition of SV for the project and what it can achieve for the community. Barriers (such as legally preventing ex-offenders to work on the facility) were known and had an impact when planning the delivery of outcomes. Certain policy gaps were discussed with certain forms of outcomes were not suitable. Answering the question "*Who is responsible for paying for outcomes delivery?*" caused conflicts between clients, contractors and consultants about what the client strives to achieve without specifying where the finances come from; this was viewed as a delivery barrier. EU labour regulations were discussed to obtain an understanding of how local jobs can be delivered without conflicting with the OJEU regulations. Recommending local agencies to be the main contractors to promote jobs for a certain population complies with OJEU rules and regulations. The negative image of a correctional facility was reviewed to assess its impact on SV outcomes and whether this image can be challenged with what the actual benefits for the local community will be. Another approach to SV was the possibility of dividing the contract into smaller portions to overcome the problem of having specialised products. This approach was attempted by large infrastructure clients through their determination of the volumes of work assigned to local SMEs and their impact on the local market. Joining up training and apprenticeship programmes across multiple projects was viewed as a method of making sure that such training/programmes would have an impact on trainees. The leverage that clients have early in the procurement (and before that point) is key to the delivery of outcomes as once it has passed this point political power cannot be used to deliver any extra outcomes. The SV champion who creates SV has a key role in delivering the planned outcomes.

Group 3 described the SV aspects which could be generated from the project and what could affect these aspects. The group discussed some of the issues around the subject of having a large budget to spend on a refurbishment and new build and whether it should be of a one-off nature or whether to look at other sustainable longer-term solutions. The longer-term solutions would require linking this project to other issues that were going on in the locality of the project area. In terms of the opportunities provided for achieving SV, in this building, there were the

jobs within the contract, training, and the role of the facility in the community in the longer term, both socially and economically.

The local content was linked directly to diverse methods of expenditure as it was seen as critical for the creation of SV. The creation of local jobs and training was a basic outcome, but wider benefits could result from a project such as this one (wherein the client could use this project to rehabilitate offenders and encourage non-reoffending). It was agreed that what happens long before the procurement is what determines the outcomes, thus not just in the preconstruction and preplanning stages but also in the time of building the project business case. An early approach to solving these problems would optimally define the type of outcomes to be delivered from this project. Public procurers must be sufficiently informed about how SV should be embedded in the process of construction delivery to dictate and lead the relationship with their main contractors and supply chains.

Group 4 described the barriers concerning the inclusion of ex-offenders working on the project and whether the skills that were needed to support this project existed. They believed that the key point was to engage with local government because it is the best source of information about the local population and its needs. In addition, they understood that planning processes can help ensure that clients are engaged in the delivery of outcomes. Local authorities understand the skills that exist locally, within local SMEs and those held by the apprentices that are needed. Bringing social enterprises within the project has a role to play when dealing with security issues or when looking for funding for social inclusion programmes. Creating continuous income from the project can have a positive impact on the SV created and can transfer it from having a short-term construction duration value to a longer term one.

5.3.2.5 Rich Picture of the Project

A single diagram was produced and analysed based on the collective efforts made by the four groups and from their rich pictures constructed the barriers and drivers of SV. The diagram described the relationship between the perceived stakeholders and the knowledge transfer of local populations' needs. The diagram also represented the information transferred about local population needs and circumstances, from the local context to the client and then down the supply chain. The diagram shows the transfer of funding from the client to the project and represents the four rich pictures of the factors which assisted in the intervention and improvement of the soft outcomes' delivery process. This diagram can be represented in the following points:

- Clients, main contractors and tier 2 contractors have a direct influence on the implementation of SV outcomes. Local populations are indirectly linked with the process through having their needs transferred to the project level through business units working with the client organisations. Main contractors and tier 2 contractors are the only parties from the supply chain who have the capacity to create SV according to the participants.
- Finances and information are both transferred between the main stakeholders of construction projects who affect and influence SV outcomes. Information is transferred from the local population about their social needs to both local authorities and client

organisations through planning permission i.e. section 106 of the Urban Planning Act and the Public Services SV Act respectively. These are the only two methods available for SV needs' transfer but they can be described by clients as a bit vague and missing flexibility in providing detailed recommendations for procurers on how to approach SV.

- Funding is transferred from the client organisation down to the business unit, through to the main contractor and down the supply chain as payments which cover SV expenses. The funding transfers are influenced by the client's organisational SV policy where the choices about funding management and how expenditure is made is influenced by what the client organisation's main SV objective achieves.
- Local needs are transferred through national and local requirements depending on the client type and their sector. If clients are large organisations performing on a national level, their SV objectives will have a reflection of what the national policy has for SV; on the other hand, if client organisations operate at the local level then the organisation will be well informed about local population needs which will be reflected directly at the project level business unit acting on the client behalf.
- SV objectives must be included as a core objective in the procurement process and not as a bi-product of the construction project. This occurs when the SV engagement starts in early stages of the project where the inclusion of it starts in the preparation of procurement and continues through the rest of the phases. The early engagement offers SV the time required to be properly planned.

Figure 19 describes the optimal perception of SV through a project being procured in the North-West of England and how clients should lead supply chains (specifically tiers 1 & 2) to be directly involved.

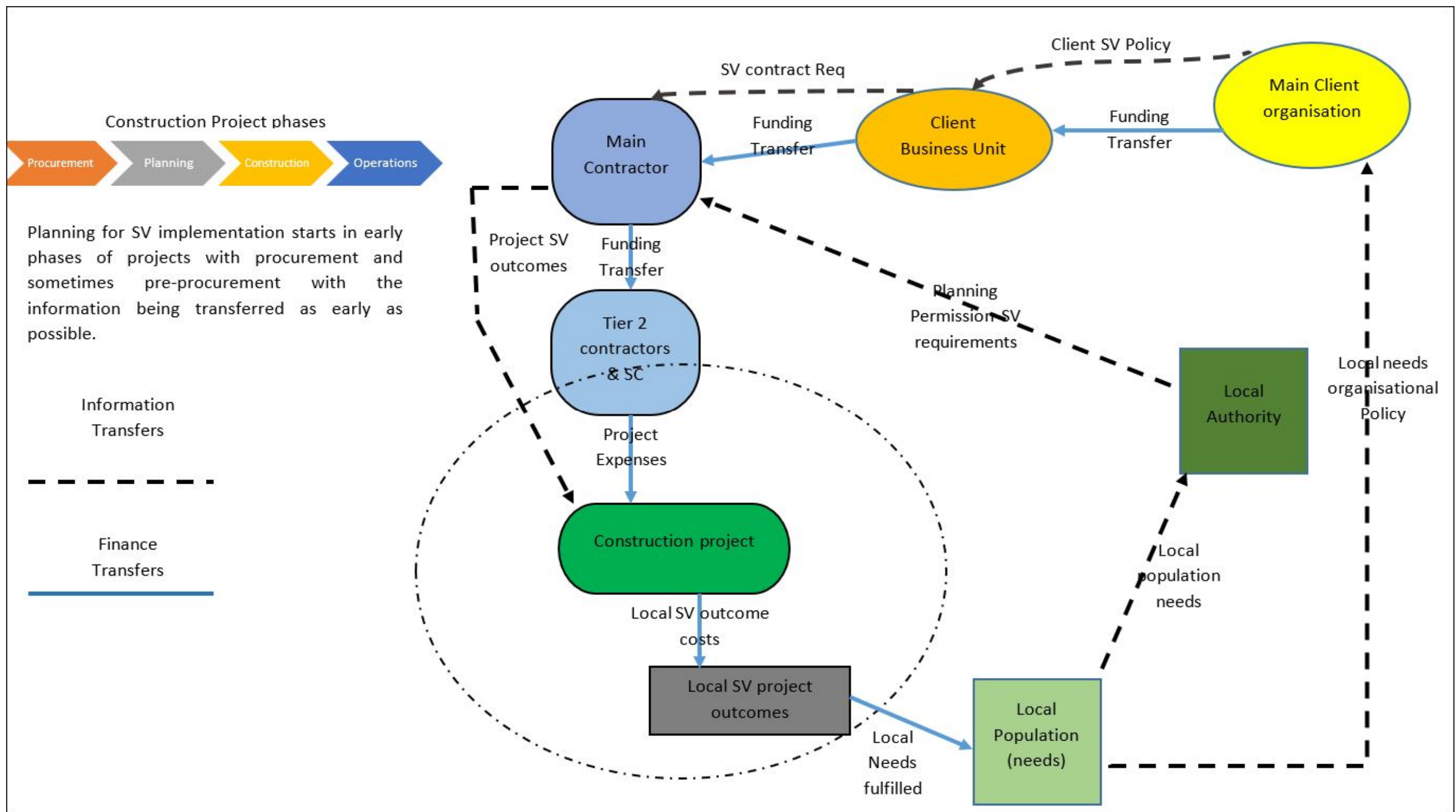


Figure 19 Focus Groups Rich Picture

5.3.3 Second Exercise of the Day

In the second exercise, the researcher attempted to capture participants' conceptualisation of how SV can be delivered in the current circumstances based on their experience and background. A set of questions was designed to tease out the answers of participants to assist, along with the Rich Pictures, in creating HAS models. The design of the questions followed an example provided by Hindle (2007) where he developed Root Definitions and eventually HAS models from analysing texts. He argued that Systemic Textual Analysis Methodology (STAM) interprets texts to generate alternative interpretations of textual data based on theoretical perspectives or world views which enhances systems modelling through analysing texts and creating conceptualisations. Any text is produced by an author, or in this case, an interview produced by an interviewee, who has world views or Weltanschauung and other elements which are intrinsically embedded in the text with both the elements and the world views creating a context in which the author (interviewee) exists. The world views and the elements are then analysed by the text analyst whereby these elements and the world views create another unique context for the analyst which includes his/her world views.

The outcome of the analysis is an integration between both contexts and world views where both world views appear in the outcomes of the analysis. Successful textual analysis is applied in six stages starting with (A) reviewing the text and its physical boundaries and its contextual information about a set of actions and the world views; (B) the activities within the text are reviewed after studying them where there are no limitations on the number of activities in a text and the level of details depends on the quality of the text; (C) if the analyst is not familiar with the language the problems they have in terms of interpretation is recorded; (D) constructing an initial HAS model from the constructed activities and the context which provides the world views and the transformation process; (E) concluding the Root definitions and the CATWOE elements from the initial HAS model, and (F) concluding a second HAS model which includes all the CATWOE elements from the previous stage. Hindle (2007) cautioned that the quality of texts can improve or damage the development of the HAS models when using textual analysis where analysts are unable to perceive the world view or the transformation process if dealing with low quality text which does not have clear activities. On the other hand, strong text in the form of directly described activities can clearly represent the transformation process and the world view behind it.

Accordingly, the researcher designed a set of questions to produce a text with a clear description of activities and the world view on the improvement of SV and then the researcher applied textual analysis to develop HAS models. Attendees answered the questions based on their organisational background, values and culture and the answers formed a conceptualisation on improving SV creation. Table 8 shows the questions designed by the researcher to produce a text with a direct description of activities to deliver outcomes from interviewees' points of view.

Question	CATWOE Elements
<i>"From your point of view what is the role of publicly procured construction projects in relation to delivering outcomes?"</i>	Question designed to understand the interviewee's world view (W) about outcomes delivery
<i>"Why do you think that this is the role to be played?"</i>	Question designed to construct the transformation process (T)
<i>"Who are the beneficiaries of this role?"</i>	Third question designed to know the client (C) of the HAS model.
<i>"When thinking about this role who do you think will carry out the actual work to deliver that?"</i>	Question designed to describe the actors (A) of the HAS model
<i>"Who has the responsibility of delivering this view of public projects and SV?"</i>	Question five was designed to describe the owners (O) of the system
<i>"What are the boundaries of such a view of the system? Or on what conditions does this role depend?"</i>	Questions designed to describe the environment (E) of the system

Table 8 Questions designed to produce a text transferred into HAS models

The HAS models produced are categorised as an interpretive model which Meredith et al. (1989) described as mental models which are formulated based on a set of relationships between factors and attributes of the phenomenon whereby these conceptual models are used in meta-analysis by creating abstracts or an integrated perspective of the phenomenon. To clarify, the organised reality in the form of a system can be an individual's perspective or understanding which has not been thoroughly explained and the objective of these conceptualisation models is to explain the phenomenon occurring through understanding the relationship between the different subsystems of the organised reality. This objective, along with the description of the phenomenon, is what the conceptualisation aims to achieve wherein the increasing accuracy of the description improves the explanations concluded from the analysis of the subsystems relationships (Meredith, 1993). Accordingly, models were developed from the answers provided and recorded by the participants with the number of completed forms being less than 22 because multiple participants chose to answer the questions collectively in single forms. The following section provides the Root Definitions and CATWOE elements for each model developed from the second exercises.

5.3.3.1 Using Consensus Primary Task Model (CPTM)

During the modelling process the researcher had to deal with the issue of consensus where the models developed are disconnected from each other and act as independent models with nothing in common other than the topic being researched. Connecting models is required in the organisation-based problems in SSM because they represent a unique set of activities as a conceptualisation of the organisation concerned. They provide a unified process of investigation for the organisation with subsystems falling under a single supra system. Accordingly, the researcher used a Consensus Primary Task Model (CPTM) which is a conceptual model used in SSM to consolidate different HAS models in a model which offers an improvement to the problem situation. The CPTM consists of four elements or subsystems;

a Transformation subsystem (T), a Support subsystem (S), a Linking subsystem (L) and a Planning, Monitoring and Controlling subsystem (P, M, C) wherein these elements are linked together with information, data and/or product flows. Each of the subsystems consist of multiple subsystems to improve the situation. Figure 20 shows the CPTM and its four elements.

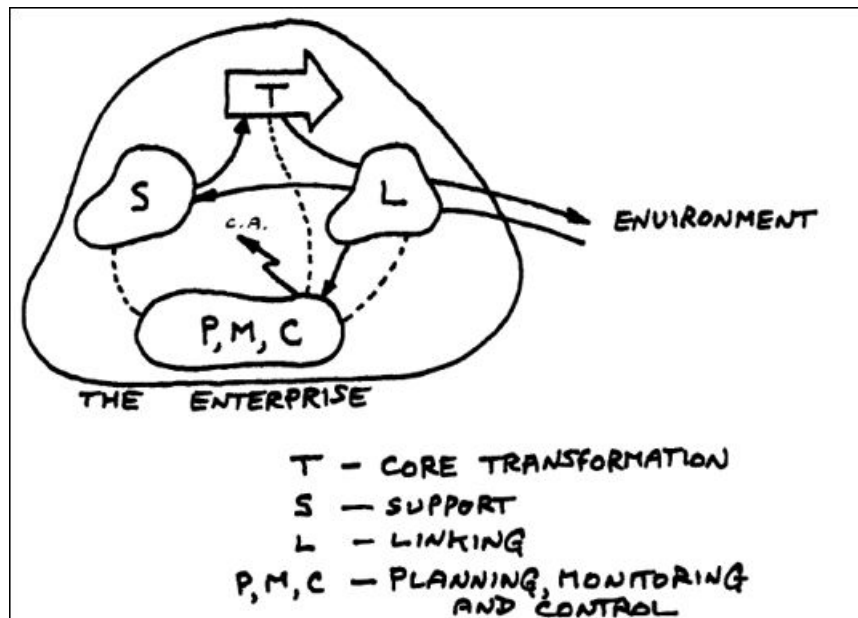


Figure 20 Consensus Primary Task Model (CPTM) (Source: Wilson, 2001)

1. The transformation (T) models are subsystems which represent the core transformation to deliver what the CPTM is designed to do.
2. The support (S) subsystem assists the core transformation (T) of the enterprise model with supporting activities.
3. The linking (L) subsystem links the enterprise model with the external environment over which the system has no control.
4. The planning, monitoring and controlling (P, M, C) models are subsystems for planning, monitoring and controlling the enterprise mode.

Several subsystems comprising the CPTM had the same Owners (O) and the same Environment (E) which is why, in the CPTM model, Owners and Environments from the different HAS models were represented by a single model for each element. Accordingly, the CPTM subsystems were used to consolidate the models produced from the participants and their answers to the designed questions. Multiple iterations of modelling were performed to develop the CPTM where each model was fully developed with all their CATWOE elements as subsystems. However, through the modelling interactions certain CATWOE elements were merged in other subsystems to create the CPTM with the full CATWOE elements.

5.3.3.2 Root Definitions, CATWOE Analysis and HAS Models

Using the CPTM can be expressed as a mission statement which is generated by the personnel dealing with the problem within the stakeholder organisations where these types of CPTM are defensible and easy to understand (Wilson, 2001). Accordingly, within the second exercise, a

main feature emerged from the participants which formulated a unique mission statement like a model with subsystems serving to achieve it.

CPTM Root Definition

The CPTM root definition is: A public client (local authority) owned system operated by a team of skilled staff from the client's business units of procurement, skills & education, regeneration & development and from contractors' procurement, design, construction, sustainability and supply chain management staff members. The system aims at creating SV outcomes with socioeconomic nature through the procurement, construction and operations of a construction project to serve the local community and populations (people and businesses). This system works within the limitations of EU procurement rules and regulations, financial resources and commercial capabilities to achieve the client's long-term aim of having a prosperous local population which is thriving economically and socially.

CPTM CATWOE analysis

T - To deliver outcomes with a socioeconomic nature to create economic value.

W - Through the procurement and construction and operations of a construction project a public client can deliver outcomes with a socioeconomic nature.

C - Local community and population (individuals and businesses).

O - Public client organisation (local authority) aiming to have a prosperous local population which is thriving economically and socially.

A - Teams from the client and contractors' organisations representing procurement, skills & education, regeneration & development and from contractors' bidding, design, construction, sustainability and supply chain management.

E - OJEU rules and regulations, financial resources and commercial capabilities.

This CPTM model conceptualises the delivery of outcomes with a socio-economic nature from the perception of the client representatives who participated in the pilot study and which was argued by them as creating value for their local population. These participants provided the conceptualisation as to how the client organisation can, in a detailed way, reconsider the delivery of their project's outcomes through the subsystems which were all developed to achieve the CPTM with the client organisation's long-term objectives taken into consideration. The CPTM root definition above is perceived as the 'what' and the subsystems are perceived as the 'how' with more details in the subsystems where more 'how' questions can be answered.

The CPTM in Figure 21 below consists of eight models (subsystems) constructed from analysing the response to modelling questions wherein the main purpose of the CPTM, as mentioned in the root definition, was creating SV through delivering outcomes with a socio-economic nature to the local population of the local authority as the public client in accordance with the long-term objective of having a prosperous local community. Each subsystem had the CATWOE elements named through the interpretation of the researcher of the participants' answers to the questions designed to depict what they thought on creating SV. Further analysis of the text was carried out to construct what the activities each participant thought would lead

to the creation of SV through their projects. The eight constructed HAS models which create the CPTM are listed below:

1. HAS model A which is a model to break down construction and design packages into specialist and generic packages to enhance the opportunity of local suppliers winning work.
2. HAS model B which was suggested by a few participants to ring-fence a percentage of the project budget and use these resources in delivering training and apprenticeship programmes which need improvement. This model is a supporting subsystem S1.
3. HAS Model C was modelled to include SV requirements in the procurement route chosen by the client organisation.
4. HAS Model D aims at increasing the engagement of tier 2 suppliers in SV delivery by directly involving them in the implementation plan.
5. HAS Model E was developed for after the duration of training that apprentices have of the project by transferring them to new projects after the current one is complete.
6. HAS Model F was developed as part of the SSM modelling structure which describes the suitable actors to carry out the systems' activities.
7. HAS Model G was developed as part of the SSM modelling to make sure all the constraints were known and to ensure that the control activities have information about the limitations and the constraints.
8. HAS Model H was developed as part of the SSM modelling where the model is monitored to achieve the long-term objectives of the owners which is the public client organisation.

Accordingly, figure 21 includes the detailed subsystems, their root definitions and their CATWOE Elements for the different HAS models.

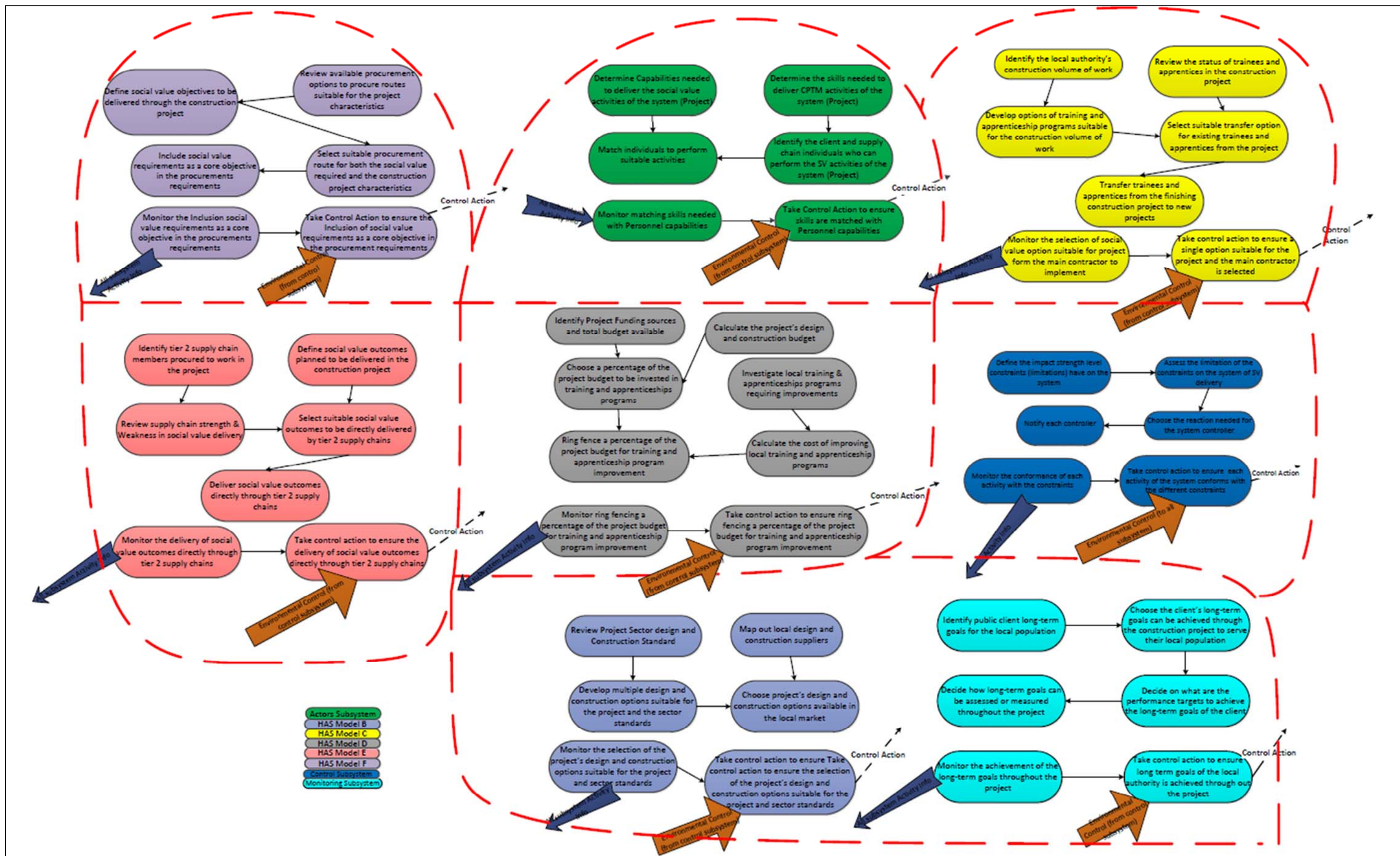


Figure 21 Pilot Study CPTM

5.3.3.2.1 HAS Model A

Root Definition

A public client owned system operated by a team of client representatives and construction designers to break down construction projects' design and construction packages into specialised and generic packages through reviewing and simplifying the work packages offering more work volumes for local suppliers. This system serves the local business and population economically within the limitation of the project's construction and design attributes which require specialist designers and construction organisations not available in the local market. (See Figure 22)

CATWOE analysis

T - Breakdown design and construction into specialised and generic packages.

W - Classifying projects' construction and design packages into specialist and generic packages to offer for the simplification of the work packages thus offering more work volume for local suppliers

C - Local construction and design businesses.

O - Public clients and/or authorities (project level)

A - Client representatives, SV Champion (SVC) and design and construction teams.

E - The limitation of the system is the project's construction and design attributes which require specialist designers and construction organisations not available in the local market.

This model conceptualises how design and construction packages are broken down into specialist and generic packages. This classification offers the client to provide more work for local suppliers by understanding the packages suitable for the local market capabilities. It also offers possible changes to designs and construction decisions to include more local suppliers.

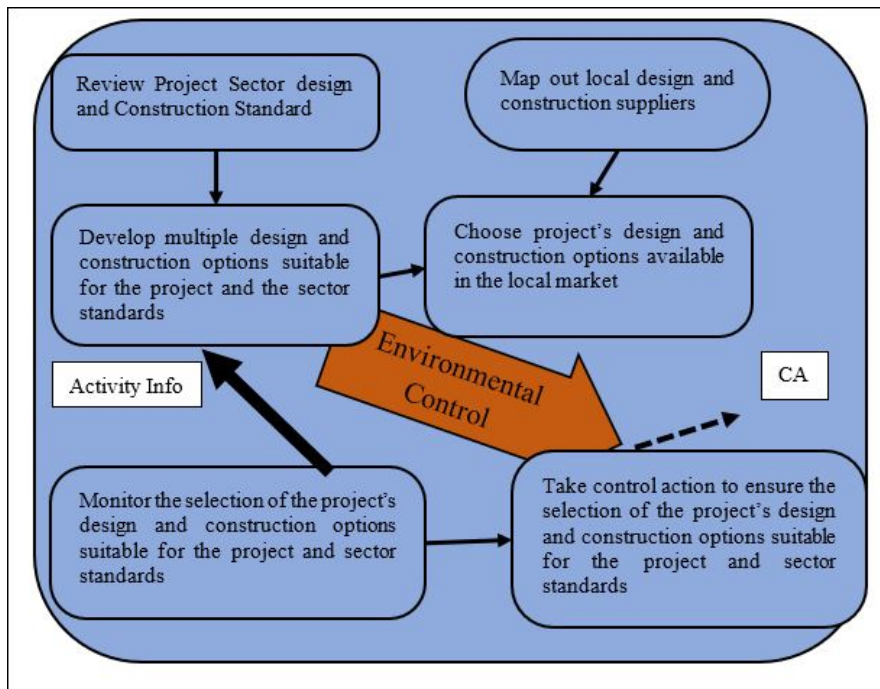


Figure 22 HAS model A Activities

5.3.3.2.2 HAS Model B

Root Definition

A system owned by the client organisation and operated by the project's procurement, financial, design, construction, and skills & employment teams to deliver local training and apprenticeship programmes as socioeconomic outcomes through ring-fencing a percentage of the construction project's budget to provide the contractor's project team with the resources to diversify high quality training and apprenticeship programmes. The system serves the local workforce who benefit from better training and apprenticeship programmes within the limitations of the budget constraints and OJEU rules and regulations. (see Figure 23)

CATWOE Analysis

T - To deliver local training and apprenticeship programmes, as socioeconomic outcomes,

W - By ring-fencing a percentage of the public construction project's budget and using it to develop these training and apprenticeship programmes providing the contractor's project team with the resources needed to diversify high quality training and apprenticeship programmes.

C – The local workforce who are eligible for apprenticeships and training.

A - The project's procurement, financial, design, construction, and skills & employment teams.

O - Public client organisations responsible for delivering construction projects.

E - Budget constraints and OJEU procurement rules and regulations.

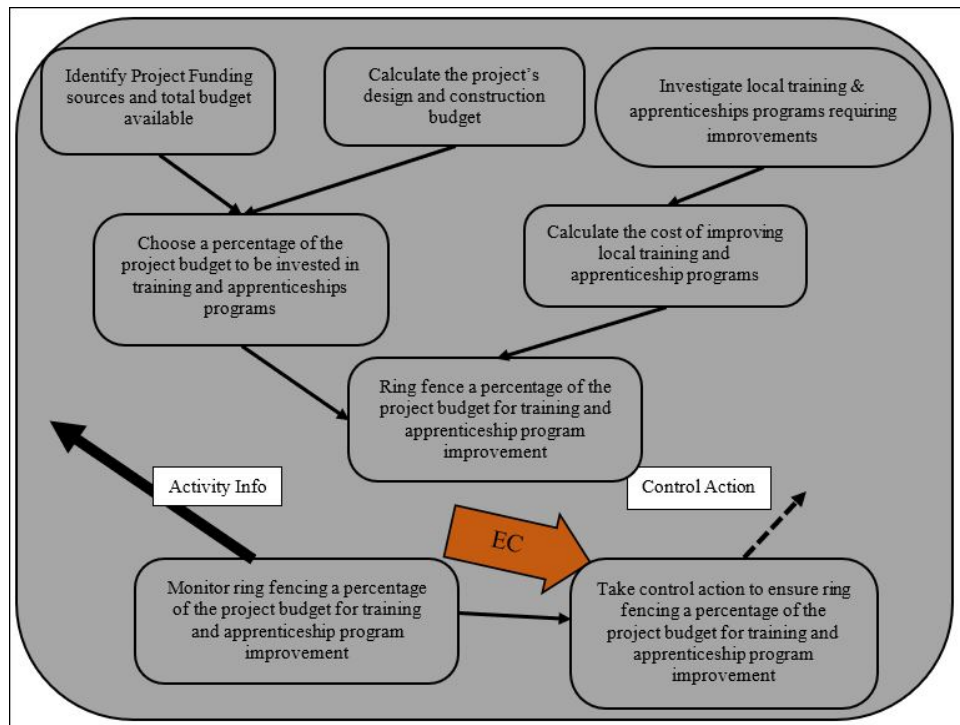


Figure 23 HAS Model B Activities

5.3.3.2.3 HAS Model C

A public client organisation owned system operated by the organisation's procurement, regeneration, skills & employment business units and SV Champions (SVC) to include SV requirements as a core objective of their construction projects through selecting a procurement route which accommodates rewarding the supply chain for creating SV. This system serves the local communities who are at the receiving end of the SV outcomes within the limitations of the EU public procurement rules and regulations. (See Figure 24)

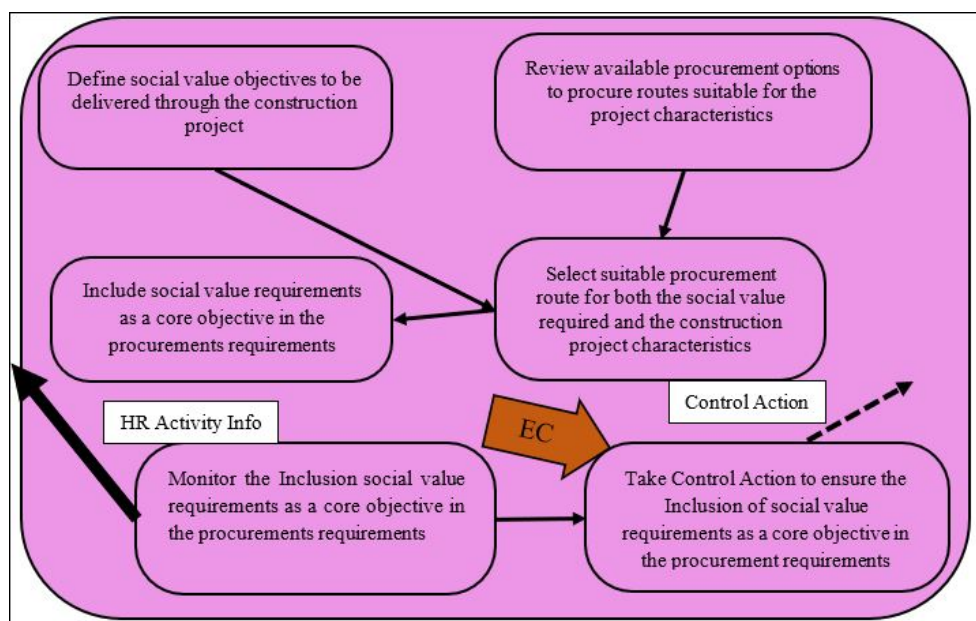


Figure 24 HAS Model C Activities

CATWOE Analysis

T - To include SV requirements as a core objective of their construction projects.

W - Through selecting a procurement route which accommodates rewarding the supply chain for creating SV the client includes requirements which are the core objectives of the project.

C- Local communities (businesses and population) who are at the receiving end of the SV outcomes.

A - The organisation's procurement, regeneration, skills & employment business units and SV Champions.

O - A public client organisation.

E - EU public procurement rules and regulations.

5.3.3.2.4 HAS Model D

Root Definition

A system owned by a public client organisation and operated by a team of procurement officers, supply chain managers, regeneration and commercial business units from the client and the principle contractor to increase the project's SV engagement of the supply chain through including downstream contractors (Tier 2 suppliers) directly in the delivery of outcomes. This system serves the local community in which the project is located within the limitation of project characteristics in the form of work packages and construction value. (See Figure 25)

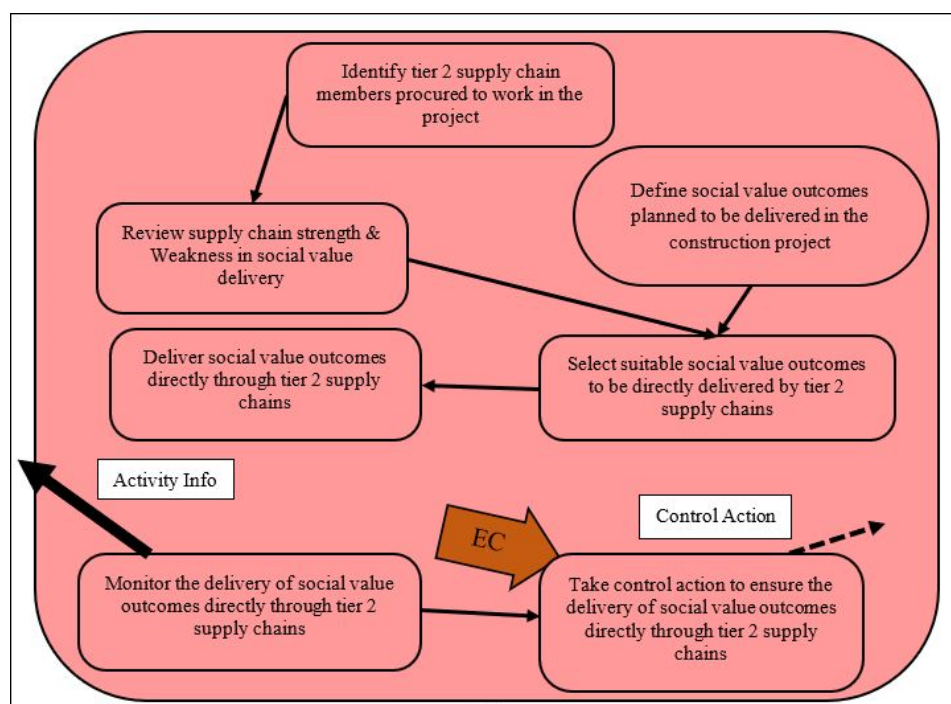


Figure 25 HAS Model D Activities

CATWOE analysis

T - To increase the project's SV engagement of the supply chain.

W - Including downstream (Tier 2) suppliers directly in delivering outcomes can increase the SV engagement of the supply chain for a chosen project.

C - The local community where the project is located.

A - A team of procurement officers, supply chain managers, regeneration and commercial business units from the client and the principle contractor.

O - The public client organisation with plans to increase SV engagement.

E - The project characteristics in the form of work packages and construction value.

5.3.3.2.5 HAS Model E

Root Definition

A system owned by a local authority client and operated by procurement skills and employment, development and regeneration business units to provide long-term training and apprenticeship programmes beyond a single project's construction duration (extending the duration) through transferring trainees and apprentices to new projects after the completion of their project. This system serves the trainees and apprentices, from the local area, recruited for the project within the limitations of the construction volume of work for the local authority offering trainees to transfer to other projects. (See Figure 26)

CATWOE analysis

T - To provide long-term training and apprenticeship programmes beyond a single project's construction duration (extending the duration).

W - Transferring of training and apprentices to new projects after the completion of their own project provides a long-term impact for the training and apprenticeship programmes.

C - Trainees and apprentices from the local area where the authority works.

A - Local authority's procurement, development, skills and employment and regeneration.

O - The local authority.

E - The local authority's volume of work available offering trainees to transfer to other projects.

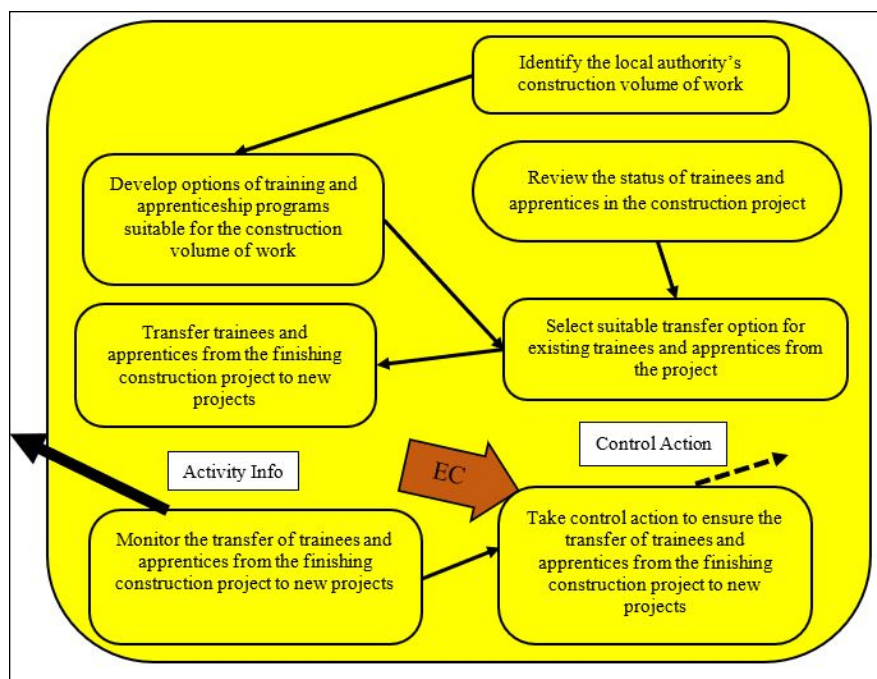


Figure 26 HAS Model E Activities

5.3.3.2.6 HAS Model F (Actors' Definition)

Root Definition

A system owned by a public client and operated by the client's business units to name the actors needed to deliver the economic SV systems activities of the CPTM model through matching the capabilities (skills) of the personnel in the project team and the requirements of the activities. This system serves the client organisation that is delivering the activities of the wider system within the limitation of the available human resources (personnel skills and experience). (See Figure 27)

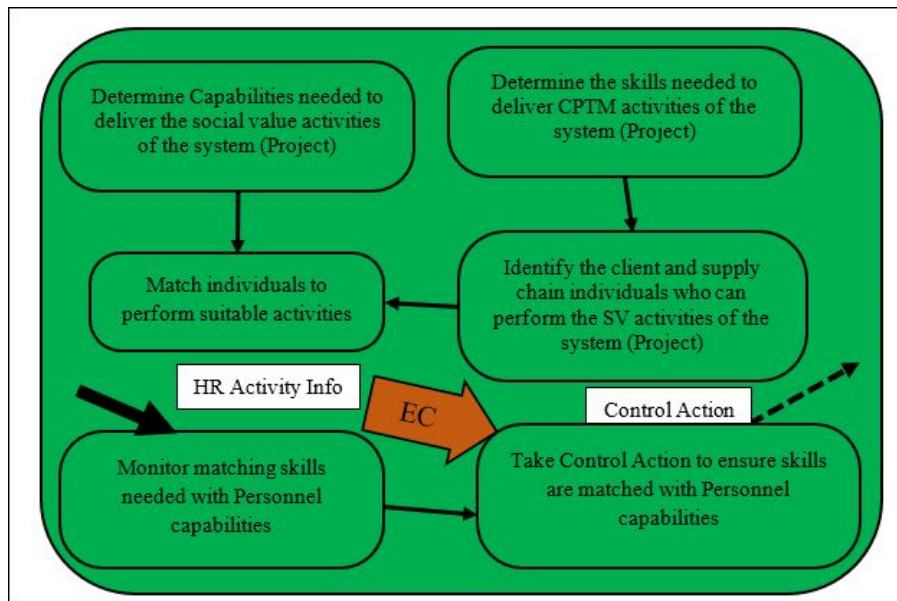


Figure 27 HAS Model F Activities

CATWOE Analysis

T - To name the actors needed to deliver the economic SV systems activities of the CPTM model.

W - Through matching the capabilities (skills) of the personnel in the project team and the requirements of the activities, the client organisation names the needed personnel.

C - The public client organisation.

O - The public client organisation.

A - A selection of business unit representatives.

E - Available human resources (skilled personnel)

This model will name individuals who are the actors of the system with skills covering procurement, construction, supply chain management, SV management, design and project management who are required with their skills to carry out the different activities of the CPTM model. This system covers naming actors from different CATWOE elements but from a wider system point of view. With each subsystem, an actors' model should exist, however, since the

model is unified for the whole process a single model can name actors for all the subsystems and activities.

5.3.3.2.7 HAS Model G (Environment system)

Root Definition

A system owned by a public client and operated by the whole of the project team to ensure the activities work within the different environmental limitations known throughout the different HAS systems (EU procurement rules and regulations, budget constraints, design & construction attributes, available human resources, client's volume of work) through intervening in control action activities across the CPTM. This system serves the client organisation to ensure all activities are compliant with the different boundaries of the system. (See Figure 28).

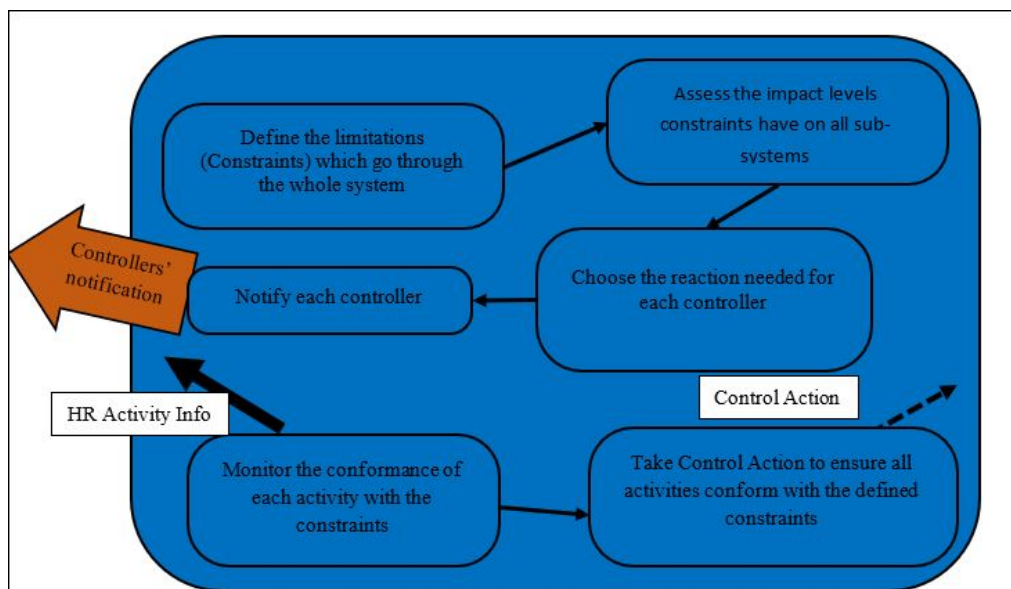


Figure 28 HAS model G Activities

CATWOE Analysis

T - To ensure system activities works in conformance with the different subsystems constraints.

W - Intervening in the control action activities in all the subsystems of the CPTM ensures that the system conforms to the constraints.

C - Public client organisation

O - Public Client Organisation.

5.3.3.2.8 HAS Model H (Monitoring system)

A system owned and operated by a public construction client organisation to ensure their long-term objectives are achieved throughout a project through monitoring the performance of the CPTM system activities against the named long-term objectives. This system operates for the benefit of the client organisation (See Figure 29).

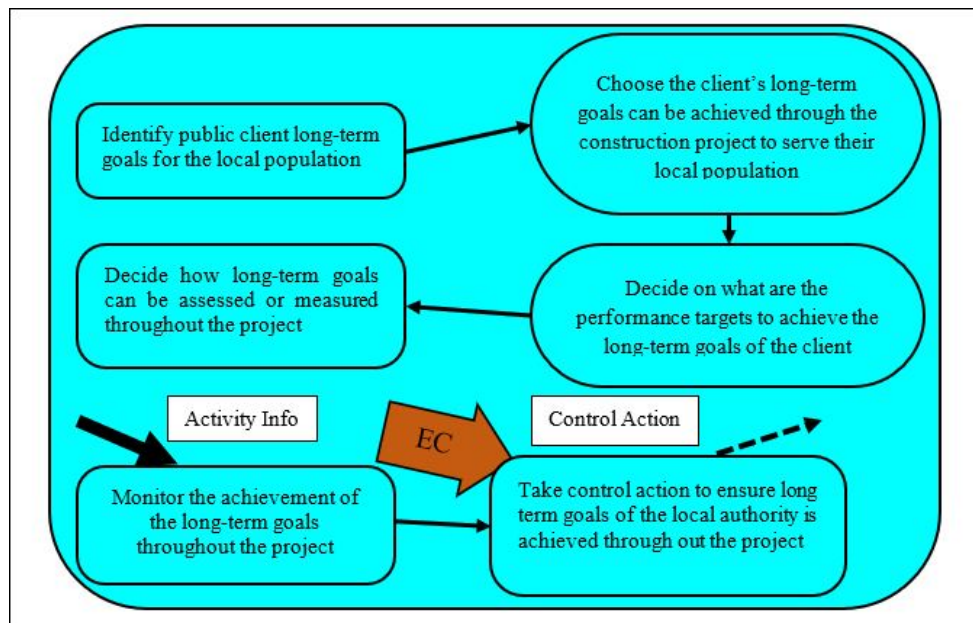


Figure 29 HAS Model H Activities

CATWOE Analysis

T - To ensure the achievement of the long-term objectives of the client organisation.

W – Monitoring the performance of the system against the long-term objectives ensures the achievement of these objectives.

C – Public client organisation.

A – Public client organisation team.

O – Public client organisation

5.4 Generic Design and Construction Process Protocol (GDCPP)

During the thematic analysis of the responses of the focus group it was indicated that SV must be included in the core objectives of the project and not be dealt with as a by-product of the construction outputs. SV would have a similar status as a design and construction objective whereby it should be included while a project's business case is being built as one of the predefined activities in certain points in time. Commercial objectives such as cost reduction, early time to market and environmental management are pursued while the business case is being built and are tracked across the full duration of the project from inception to handing

over. Likewise, the approach towards SV would be the same, whereby this method of implementation can provide project teams with SV perceptions and reduce the ambiguity. The CPTM sections produce activities which project teams can take into consideration to improve SV conceptualisation. Nevertheless, the CPTM produced a high number of activities which can be confusing for individuals who are not familiar with SSM. Some subsystems have activities which can span across different stages of a project such as the actors' defining subsystem and choosing the project's SV objectives which creates a need to explain when such activities should be performed for users. Ledington and Ledington (1999) criticised how HAS modelling users might be faced with large modelling outcomes (numerous models and their activities) which can create ambiguous and uncertain results that might lead to rejecting this approach.

Accordingly, the researcher used the Generic Design and Construction Process Protocol (GDCPP) as a tool that provides the staging process and accommodates an SSM approach where the activities produced through the HAS models can be organised across construction project stages to enable the stakeholders improved perceptions of SV. The GDCPP will provide clients, main contractors and subcontractors with a way to think about the creation of SV from a construction deliverable perspective where the activities outcomes of HAS models are distributed across different stages of the construction projects and encourages the stakeholders to consider them in relation to the stage of the project. GDCPP emerged as a tool to improve a construction project's delivery processes in place of the historical tradition of focusing only on final products and neglecting the delivery process details which resulted in the reduction of consistency and in diminishing the learning experience (Kagioglou et al., 1999). The GDCPP research team aimed at producing a new process based on New Product Development (NPD) which is a manufacturing industry concept consolidating product development process (from capturing the client's requirements to the delivery of the product) into a consistent process (Cooper et al., 2005). The GDCPP uses process modelling to construct the delivery process and the construction product by enhancing the workflows and the perceptions of a project's activities whereby the modelling encourages project teams to build, manage and coordinate different activities aligned with their objectives (Carmichael et al., 2004). GDCPP distributes the interest and activities over the project's life cycle to change the business case building and reduce conflicts and confusion between stakeholders (Kagioglou et al., 1998). The GDCPP process consists of stages and gates:

- Stages overlap because they represent the full life cycle of the project where, in each stage, a diverse range of activities are performed, and data about the performance is collected to ensure the goals of each stage are achieved before moving to subsequent stages (Kagioglou et al., 1999);
- There are gates with a flexible 'start' 'stop' mechanism whereby a gate opens to the 'start' of activities in a new stage conditional on a specific activity to be performed in a defined time. If the information or the activities are not vital at this stage the project does not 'stop' and may proceed without fully performing these activities.
- Stages have a feedback mechanism which is provided from the different phases to measure the project performance at a given point and to introduce subjectivity in the process (Cooper et al., 2005).

5.4.1 AZs (Sub-processes)

The GDCPP was developed to enable project teams to deal with multiple disciplines with the same approach from inception to operations. Originally the GDCPP dealt with disciplines such as: (1) Development management; (2) Project management; (3) Resources' management; (4) Design management; (5) Production management; (6) SV implementation; (7) Facilities' management; (8) Health and safety, statutory and legal management; (9) Process management, and (10) Change management. Each discipline is dealt with independently from the other in what Cooper et al. (1999) described as the AZs which sub-processes of the GDCPP are. A single AZ consists of a set of activities conceptualised by a cross-functional team to achieve the discipline objectives where these objectives are task driven and not function driven. For example, design management as an AZ consists of activities performed by team members in the areas of procurement, design, construction, and commerce aiming to achieve a task such as reducing carbon emissions.

Accordingly, individuals who carry out these cross-functional tasks are selected based on their ability to achieve the task objective and are named based their task's primary responsibilities. The tasks' complexity level and project size dictate whether the AZ can be performed by a single person within a single organisation or be carried out by a complex network of individuals which stretch across multiple organisations. Figure 30 shows how an AZ spans across four main stages which are the pre-project, pre-construction, construction and post construction phases. Furthermore, the main stages are broken down to provide more details of the AZ tasks where all four main stages spread to ten sub-stages.

Project phases	Phase 0	Soft Gate	Phase 1	Soft Gate	Phase 2	Soft Gate	Phase 3	Soft Gate	Phase 4	Soft Gate	Phase 5	Soft Gate	Phase 6	Soft Gate	Phase 7	Soft Gate	Phase 8	Soft Gate	Phase 9
	Demonstrating the need		Conception of need		Outline feasibility		Substantive Feasibility Study & Outline Financial Authority		Outline conceptual design		Full conceptual design		Coordinated design procurement full financial authority		Production information		Construction		Operations & Maintenance
Activity Zone 1		Phase Review		Phase Review		Phase Review		Phase Review		Phase Review		Phase Review		Phase Review		Phase Review		Phase Review	
Pre-Project Phases									Pre-Construction Phase					Construction phases			Post construction Phase		

Figure 30 AZ structure (Source: Cooper et al., 1999).

The pre-project phase consists of a sub-phase zero (which includes activities which demonstrates the need for the project) in addition to sub-phase one which includes activities to conceptualise the need for the project which are more detailed than in phase zero. Moreover, sub-phase two consists of activities that would outline the feasibility of the project and, finally, sub-phase three consists of activities to provide substantive feasibility studies and to outline the financial authority for the project. The pre-construction phase is broken down into sub-phase four (with activities to achieve the conceptual outline design), sub-phase five (where a full conceptual design is developed) and sub-phase six (with activities to achieve a coordinated

design, procurement procedures and a full financial authority). The construction phase is broken down into sub-phase seven (with activities to provide production information) and sub-phase eight (to start and conclude the construction). Finally, the post construction phase is represented by sub-phase nine which covers the activities undertaken to manage and operate the construction utility (Cooper et al., 1999).

It is important to note that the GDCPP provides a detailed perspective for construction projects' delivery based on having seven sub-phases out of ten sub-phases covering pre-construction. This was discussed by the participants of the focus groups and was shown in the rich picture where an early intervention to plan SV creation. In addition, the early stages of a construction projects (pre-project and pre-construction) have a wide range of activities which impact the results significantly, whereas the activities in the construction and operational phases have less of an impact; this was also mentioned in the focus groups.

5.4.2 Advantages of the GDCPP in SV Perceptions

The GDCPP offers a degree of consensus between stakeholders because of the integration the cross functional activities have. Activities within AZs are task-oriented while using individuals from various disciplines performing tasks deliver diverse objectives as part of the core business case of a project. Likewise, from the perceptions of the focus groups, soft outcomes occur when SV is among the core objectives of a project. Therefore, conceptualising SV as an AZ transforms it into a discipline of a construction project such as design management, resource management and facilities management when it is being discussed and considered by the stakeholders.

In addition, the gap between strategic objectives and operational level activities might be reduced because of the cross functional teams where the activities named by the HAS models are thought of by operational cross-functional individuals, and not senior management, who have more operational experience to offer to the conceptualisation. The knowledge and experience of cross functional teams reduce confusion and ambiguity, this being one of the challenges SV creation must overcome. These teams debated as to how the constructed activities are viable which can improve the decision-making process (Cooper, 1994). Similar to HAS modelling activities, Kagioglou et al. (1999) stated that the GDCPP activities have logical dependencies and can be broken down into lower more detailed levels which provide the 'how' wherein the higher-levels, which provide the 'what' activities, are logically dependent on the lower ones.

5.4.3 Integrating SSM with the GDCPP

An integration between SSM (which deals with the soft subjective nature of SV and produce the activities needed for debate among stakeholders) and the GDCPP (which conceptualises SV as a core objective of the construction project across its stages) would act as an SV conceptualisation tool bespoke for each project. The similarity between GDCPP and SSM activity creation (where the former generates activities through interviewing cross-functional team members (Kagioglou et al., 1999) and SSM through interviewing stakeholders) supports the integration between them. This integration can overcome the disadvantages of GDCPP and provide a less confusing usage of the CPTM activities generated because it offers stakeholders

with an organised approach to incorporate the subjective nature of SV with the structured approach to discipline management.

5.5 Towards a SVAZ Improvement Process

As per the SSM and the GDCPP review, this research develops the Social Value Activity Zone (SVAZ) as a process which leads to social value delivery conceptualisation. This process develops activities, according to the stakeholders' perceptions and the project characteristics, and classify them, to create a debate between the key stakeholders about how to create SV.

The SVAZ process is developed through activities done in multiple stages (shown in figure 31) to create the debate about social value through carrying each stage. The SVAZ process begins with using the SSM streams of inquiry to understand the problem situation. This leads to the HAS models, development and the construction of the activities. Then, these activities create a new activity zone to assist the stakeholders to think about Social Value.

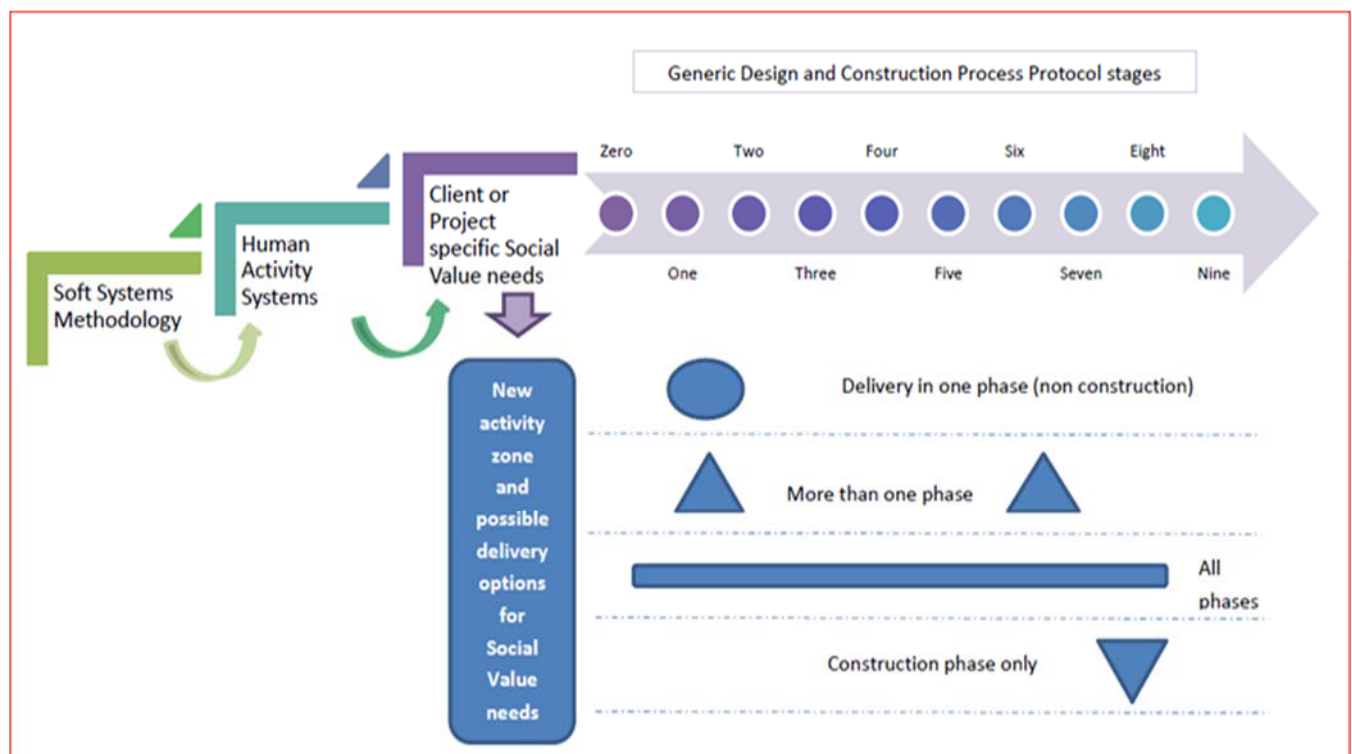


Figure 31 Social Value Activity Zone Process (Source: Farag, McDermott & Huelin, 2016).

The detailed stages of the SVAZ is discussed below:

1. Naming the key stakeholders which have influence on social value (in the pilot study they were the client, the main contractor, and the tier 2 suppliers) to ensure that the SVAZ has consensus between these stakeholders and that the process includes activities based on their perceptions;
2. Use the SSM cultural stream of inquiry to build an understanding of the problem situation, the stakeholders and the project's internal and external environment;
3. Carry out focus groups led by the client organisation and involves individuals from the key stakeholders named in the previous stage;

4. Face to face interviews with key individuals from the client organisation's different business units and the key stakeholders (Main contractor and Tier 2 suppliers) of the project;
5. Develop a Rich Picture which represent the project situation, the relations between the different stakeholders and the project where the client organisation can construct the challenges which will face them and their supply chains in delivering outcomes;
6. Use the challenges to the social value delivery in the development of multiple HAS Models (subsystems of the CPTM) with activities which lead to SV creation in the project. The interviews or the focus groups are analysed using text analysis approach developed by Hindle (2007) to create the CATWOE elements of each subsystem;
7. The activities generated from the HAS models (Subsystems of the CPTM) are mapped against the GDCPP projects phases between phases zero to nine. Activities are allocated based on the understanding of the users where, for example, a decision to allocate an activity to the pre-project phase and its sub-phases depend on the stakeholders' understanding of the activities. Other activities perceived by stakeholders as being in any other phase are assigned based on the same stakeholders understanding which provides a consistent logic to the process. Some activities span across multiple phases which is why the flexible gates are important to the process;
8. The SVAZ is debated among the key stakeholders to enable the decision making about SV though discussing what it presents.

Farag, McDermott and Huelin (2016) argued that through this approach, users understand the activities needed between phases zero and nine of the project and provides a view of social value across the project's timeline. In addition, the SVAZ application can be included in construction projects delivery processes early to achieve the suitable results. Finally, this process is flexible and adaptable to suit different stakeholders and construction projects' characteristics because it provides a path but does not have any predefined activities or expectations about how social value can be delivered because it uses SSM and GDCPP which constructs the development of activities based on the views of any of the defined stakeholders in stage one.

5.5.1 SVAZ Validation

Fellows and Lui (2009) argued that modelling is the process of constructing a representation of reality in a practical manner where it includes the essential features of reality that would construct the model to achieve what it was designed for. The model should have a purpose (a reason for existence) and who it is constructed for, where a diagram of reality would benefit the construction of variables and their relations. Common models in construction research are graphical models which are visual and logical and represent the relations between different variables. They added that models are developed through multiple stages which are:

1. Defining the model objectives;
2. Analysing the reality (defining the object to be modelled);
3. Formulate components into the model(s);

4. Verify and validate the model(s);
5. Select suitable model;
6. Use the model in analysing and predicting.

Fellows and Lui (2009) mentioned that there is a strong relation between the methodology and the model in all these stages and especially in the verification and validation stages. They added that SSM modelling relied on social constructionism where the model moves from being static system existing in the real world to soft systems which include the social dynamics of reality and thus methods of validation and verification should be suitable to the SSM methodology. Accordingly, because SVAZ is developed from the activities of multiple HAS models the validation of SVAZ as a model should be following methods of SSM validation.

HAS models are not would-be descriptions of the world, which Operational Research Models claim to do, and thus cannot be tested by checking whether they represent the world because they do not claim to represent the world. Hence, model validation when using the SSM is not a paramount issue because claiming that models are surrogates for specific parts of reality is no longer valid. Validation in SSM is linked to how competent models are built and how relevant are these models to the problem situations. The question about the HAS models being relevant is answered through the learning process itself and going through the exercise of developing and revising the model multiple times (Checkland, 1995). Montevechi and Friend (2012) stated that researchers can validate their models through tracking back over the steps they took to develop the models through asking questions about the logical development of these models. They added that logical contingency between HAS models' activities provides validation to these conceptual models. Accordingly, the HAS models of all case studies were validated using the same logical approach within the interview transcripts where the questions about the logical development of the models were made and validated from the answers provided by the interviewees as users of the modes.

5.6 CPTM Activities Classification

The researcher classified the activities of each subsystem according to the phase of the GDCPP AZs to ensure that all stakeholders are aware of the plan from the beginning to the end of the project to create SV which is shown in figure 32. Appendix A provides the classification of each model along with the justification of each.

Pre-Project Phases					Pre-Construction-Phases					Construction Phases			Post Completion Phase
(Phase Zero) Demonstration of Need	(Phase One) Conception of Need	(Phase Two) Outline Feasibility	(Phase Three) Substantive Feasibility Study & Outline Financial Authority	Hard Gate 1	(Phase Four) Outline Conceptual Design	(Phase Five) Full Conceptual Design	Hard Gate 2	(Phase Six) Coordinated, Design & Procurement & Full financial Authority	Hard Gate 3	(Phase Seven) Production Information	(Phase Eight) Construction	Hard-Gate 4	(Phase Nine) Operation & Maintenance
Define social value objectives to be delivered through the construction project		Map out local design and construction suppliers	Review available procurement options to procure routes suitable for the project characteristics		Review Project Sector design and Construction Standard		Monitor the selection of the project's design and construction options suitable for the project and sector standards & take control actions to ensure design achieve the objective			Deliver social value outcomes directly through tier 2 supply chains		Monitor and take control action to ensure the delivery of social value outcomes directly through tier 2 supply chains occurs	
		Identify Project Funding sources and total budget available		Monitor ring fencing a percentage of the project budget for training and apprenticeship program improvement	Develop multiple design and construction options suitable for the project and the sector standards	Choose project's design and construction options available in the local market		Ring fence a percentage of the project budget					
Investigate local training & apprenticeships programs requiring improvements			Calculate the project's design and construction budget					Include social value requirements as a core objective in the procurements requirements	Monitor and take control action to ensure the Inclusion social value requirements as a core objective in the procurements requirements	Review the status of trainees and apprentices in the construction project	Select suitable transfer option for existing trainees and apprentices from the project	Monitor and take control actions to ensure the transfer of trainees and apprentices from the finishing construction project to new projects	Transfer trainees and apprentices from the finishing construction project to new projects
		Calculate the cost of improving local training and apprenticeship programs	Choose a percentage of the project budget to be invested in training and apprenticeships programs					Select suitable procurement route for both the social value required and the construction project characteristics					
	Define social value outcomes planned to be delivered in the construction project				Identify tier 2 supply chain members procured to work in the project	Review supply chain strength & Weakness in social value delivery	Select suitable social value outcomes to be directly delivered by tier 2 supply chains						
	Identify the local authority's construction volume of work				Develop options of training and apprenticeship programs suitable for the construction volume of work								
Determine Capabilities needed to deliver the social value activities of the system (Project)				Monitor and take control action to ensure matching skills needed with Personnel capabilities	Determine Capabilities needed to deliver the social value activities of the system (Project)		Monitor and take control action to ensure matching skills needed with Personnel capabilities	Determine Capabilities needed to deliver the social value activities of the system (Project)		Determine Capabilities needed to deliver the social value activities of the system (Project)		Monitor and take control action to ensure matching skills needed with Personnel capabilities	
Determine the skills needed to deliver CPTM activities of the system (Project)					Determine the skills needed to deliver CPTM activities of the system (Project)			Determine the skills needed to deliver CPTM activities of the system (Project)		Determine the skills needed to deliver CPTM activities of the system (Project)			
Match individuals to perform suitable activities					Match individuals to perform suitable activities			Match individuals to perform suitable activities		Match individuals to perform suitable activities			
Define the limitations (Constraints) which go through the whole system				Monitor and take control actions to ensure the conformance of each activity with the constraints	Define the limitations (Constraints) which go through the whole system		Monitor and take control actions to ensure the conformance of each activity with the constraints	Define the limitations (Constraints) which go through the whole system		Define the limitations (Constraints) which go through the whole system		Monitor and take control actions to ensure the conformance of each activity with the constraints	
Assess the impact levels constraints have on all sub-systems					Assess the impact levels constraints have on all sub-systems			Assess the impact levels constraints have on all sub-systems		Assess the impact levels constraints have on all sub-systems			
Choose the reaction needed for each controller					Choose the reaction needed for each controller			Choose the reaction needed for each controller		Choose the reaction needed for each controller			
Notify each controller					Notify each controller			Notify Each Controller		Notify Each Controller			
Identify public client long-term goals for the local population		Choose the client's long-term goals can be achieved through the construction project to serve their local population		Monitor and take control actions to ensure the achievement of the long-term goals throughout the project			Monitor and take control actions to ensure the achievement of the long-term goals throughout the project					Monitor and take control actions to ensure the achievement of the long-term goals throughout the project	
			Decide how long-term goals can be assessed or measured throughout the project										
			Decide on what are the performance targets to achieve the long-term goals of the client										

Figure 32 Pilot Study SVAZ

5.7 Lessons Learnt from the Pilot Study

The pilot study provided valuable additions to the research, which enhanced the research approach, which could be used within the main study afterwards. Listed below is what the pilot studies added:

- From the construction clients' perspectives, the researcher was able to know the key stakeholders who influenced decisions made about SV within construction projects. The pilot named the client organisations, the main contractors and first tier of suppliers as the stakeholders influencing a project and decisions made. Tier 2 contractors participate, but they have very limited influence. The local populations were important to the participants but did not have the political power to influence the decision making within a project. Alternatively, local authority's business units were seen as representing what the local populations needs and held information about how to satisfy these needs;
- Client organisations were the main leaders of construction procurement and influenced other stakeholders who tend to follow their lead to create SV through delivering outcomes. Procurement decisions, the types of outcomes and communication across the supply chain depended on the client organisation. Clients can overcome various challenges whereas the opposite would not apply if the client did not believe in creating SV;
- The difficulty of defining outcomes and lacking guidance on methods, tools or techniques to do so at the operational level were the main challenges to client organisations. Also, quantifying the impact of such outcomes was not socially constructed which could not provide sound justification for the procurement decision-making.
- SSM was suitable for investigating the phenomenon being researched with both its streams of inquiries. The cultural stream of inquiry provided a clear understanding of the situation and how client organisations perceived SV to be. Analysing the data under the cultural stream of inquiry and producing a rich picture provided relations between the stakeholders and their roles, the time of intervention for each stakeholder, the champion's role and how money and information were exchanged;
- The logic stream of inquiry teased out what the participants saw as to how this [a?](#) project can create SV or outcomes which added value and then use it to create HAS models with activities which would encourage client organisations' procurement teams to reconsider how they would create value;
- The pilot study provided the researcher with the opportunity to code and analyse data using the thematic analysis approach which proved important to the main study where the same approach was used to code and analyse its data;
- The factors affecting SV discussed by the client representatives were similar to those discussed in the literature review presented in chapter 3 of the external and internal levels factors and did not produce new factors which were not covered by literature;
- The researcher was expected to produce a process which client organisations' actors, involved in construction procurement, can use to reconsider how they perceive the delivery

of outcomes aligned with what they construct as value. The researcher thought that SSM's logic stream of inquiry and HAS models were suitable to produce the aforementioned process. However, it was clear by how the pilot progressed, that HAS models on their own and the vast amount of activities they produce might add to the confusion of the actors, despite the benefits such an approach added to the procurement process. Hence, there was a need to change how the process should be constructed because elements seemed to be missing;

- Participants saw outcomes which would lead to the creation of value as having an economic nature in the form of local suppliers' engagement, local apprentices and trainees improving local workforce employability, and providing local businesses with the opportunities to win work. Accordingly, the SV created by these outcomes was socio-economic in nature.
- In addition, from the SVAZ it was clear that most of the effort to bring about SV takes place long before the construction phase starts whereby the pre-project and pre-construction phases have most of the activities, and construction and operations have the minimum of these activities. Construction, not surprisingly, includes follow up activities for measuring and tracking the outcomes' impact; also, the operations phase has activities such as transferring outcomes to other projects;
- Early intervention was an important element of delivering outcomes whereby early intervention was viewed as the way in which SV creation becomes a core objective of the construction project. Embedding SV into the core objectives of construction projects requires it to be properly planned and to be managed in every phase of the project from inception to operations.

Changes made to the initial research design according to the pilot study results:

- The client view of stakeholders influencing the procurement decisions informed the researcher about approaching the client organisations, the main contractors and the first tier of suppliers and understanding their role within construction procurement and SV. As for the local populations which are the influenced by values created by the construction projects, the pilot studies indicated that they did not influence procurement decisions and that local authorities' business units represented them with information about their needs and their capabilities. Hence, client organisations (and their business units), main contractors and the first tier of suppliers were approached by the researcher;
- The data coding and analysis was suitable for the nature of the research being qualitative abductive and, therefore, the researcher used the thematic analysis approach by using major themes linked to the literature and subthemes constructed through fusing as discussed earlier;
- Through the pilot the researcher examined the development of the HAS models which on their own were confusing and could not encourage client organisation actors to reconsider their perceptions about SV and the outcomes of the construction projects. Therefore, the researcher added the use of the GDCPP which can construct the activities produced by the

HAS models in an organised manner whereby actors can participate in developing these activities and then can understand their impact on the projects and SV creation. The GDCPP can reduce conflict between different stakeholder perspectives about SV and provide a level of consensus between them because it includes activities constructed by influential stakeholders. Finally, the SVAZ process converted the conceptualisation of participants regarding tasks and embedded creating SV in the core objectives of the project.

5.8 Case Study Selection Criteria and Replication Logic

The next step in the research was to examine the propositions and models using the case study research strategy to achieve theoretical and literal replication from the cases. As discussed earlier, a case study selection criterion was used to select cases to examine the propositions and the development of using SSM and GDCPP to improve the SV situation in construction projects. The selection criteria for the case studies were based on the internal and external factors affecting SV in construction projects as named in the earlier sections 3.3 and 3.4. External and internal factors were listed in Table 9.

External Factors	Internal Factors
Construction Client Type	Design and Construction Characteristics
Strategic Procurement Route	Project Sector Identity
Financial Sources of Construction Projects	Construction Project Type
Local Context	Construction Project Value

Table 9 Research Case Study Selection Criteria

Accordingly, the researcher chose four case studies to achieve literal and theoretical replication which offers, through the replication logic, the opportunity for analytical generalisations. The cases were chosen within the North-West region of the UK but with a diverse range of factors and different contexts for each project which supported the aim of achieving analytical generalisation. Table 10 presents each case and its selection criteria.

Selection Criteria	Case Study One
Client Type	Highly experienced public client
Procurement Route	Construction framework agreement
Project Cost	High cost project
Project Type	Standalone project
Design and Construction Characteristics	English Heritage and refurbishment
Selection Criteria	Case Study Two
Client Type	Highly experienced public client
Procurement Route	Regional & national construction framework agreements
Project Sector	Educational sector
Project Type	A programme of construction projects
Financial Sources	Funded by the public client
Selection Criteria	Case Study Three
Client Type	Private developer
Financial Source	A public private mixed funding
Project Sector	Transportation sector
Design and Construction Characteristics	A unique infrastructure project with specialist engineering requirements
Local Context	Unknown local population

Selection Criteria	Case Study Four
Local Context	In a deprived area
Project Sector	Housing sector
Financial Sources	Public funding
Design and Construction Characteristics	Standard design and construction characteristics
Project Cost	High cost project

Table 10 Case Studies Selection Criteria for Theoretical and Literal Replication

Figure 33 shows how literal and theoretical replication is achieved through the four cases which were designed to provide evidence for the analytical generalisation. Client type achieves literal replication in cases 1 and 2 for having public local authorities as clients and theoretical replication with case 3 because the client is a private developer. Design and construction achieve literal replication in cases 1 and 3 for having specialist trades and highly specialised engineering work packages and theoretical replication with case 4 for having generic design and construction characteristics. Financial sources achieve theoretical replication through case 2 for having a pure public funding and theoretical for cases 3 and 4 for having mixed public and private funding sources. Project types achieve theoretical replication between cases 1 and 2 because the first is a standalone project and the second is a programme of projects. Project sector achieves literal replication through cases 2 and 4 which are social services' sectors (educational, and housing) whereas case 3 achieves theoretical replication because it belongs to the transportation sector. The rest of the factors, project value and strategic procurement provide literal replication due to the usage of similar procurement routes and to having high value projects.

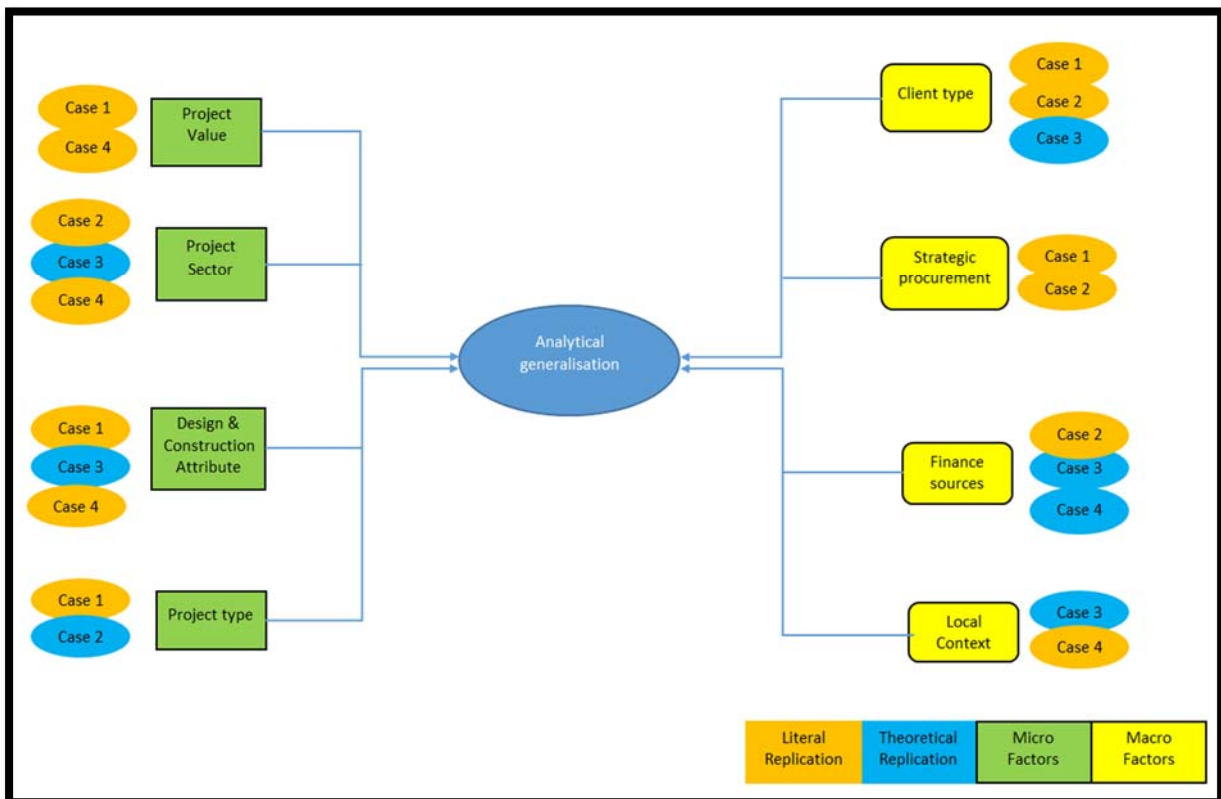


Figure 33 Case study selection criteria for theoretical and literal replication

5.9 Chapter Summary

In this chapter, the researcher examined the research methodology and data collection techniques through the pilot study. The pilot study was used to examine the initial propositions and the internal and external factors affecting SV in construction projects. Within this chapter the researcher amended the systems modelling tool used to develop activities that would help stakeholders reconsider how SV is created through the GDCPP. The GDCPP was used to transform the activities into project orientated tasks in every phase of the project from inception to operations. This process led to the development of the SVAZ, which enables users to think about SV in similar ways to other management discipline and overcome the confusion which can occur due to the high number of activities generated through the usage of the SSM and HAS models. Finally, the case study selection criteria and replication logic were discussed in the final section of the chapter.

Chapter 6 Intra-Case Analysis of Four Case Studies to Examine Propositions

6.1 Chapter Introduction

Further to the use of SSM conceptual models and the SVAZ process in the pilot study. This chapter investigates how SV was conceptualised, viewed and created by stakeholders in four in-depth case studies of construction projects. Nvivo software was used in the analysis process and the identification and tracking of main and sub themes of each case study. Each case was structured as follows:

1. The case study description: reviews the project's background, the client organisation and the context of how it was executed.
2. Interviewees' profiles and interview structure: this section provides a justification of the selected interviewees, their positions in the organisation and their involvement in the projects.
3. Intra-case analysis provided the emerging themes, the rich picture, the conceptualisation of HAS models and the SVAZ process for the project.
4. The findings section reviews the (hypothesis) and the emerging emerge and the conclusion of the case study.

It is expected that, by the completion of this chapter, each case will present a view of how subjective SV is and how stakeholders view it differently through using SSM and the SVAZ. The propositions developed in chapter three will be examined as part of this chapter.

Examiners of this work will have access to the detailed analysis of the interview transcripts for each case study for review.

6.2 Case Study One

6.2.1 Case Study Description

Case 1 was a construction project procured by a public client in the North West of England with an emphasis on SV from the early stages of the project. The procuring client was a local authority with extensive experience in delivering a diverse range of construction projects. The project was a high value capital investment project with a £100 million budget with the procurement taking place 18 months before construction began (at the end of 2008) at the pinnacle of the economic crisis of 2008 which pressured the client into considering SV. The project was an English heritage refurbishment which had an impact on its design and construction characteristics affecting some of the supply chain procurement and delivery decisions. Because the construction started in 2011 and ended in 2014, the client used the term 'added value' to describe the maximisation of non-financial outcomes because the SV act had not been introduced at that time, so the terminology was different for this project.

The client had extensive experience of partnering with main contractors across different projects, which led them to adopt a similar approach when procuring this project where the procurement strategy they could partner with the main contractor and the supply chain. The client used a regional construction framework, which was newly introduced at the time with its core ethos being added value and collaboration between stakeholders, led by the client which was the dominant culture in managing the project. The project was not linked to the client's medium or long-term pipeline of construction projects, it was a standalone project.

Since its completion, the project was depicted by its stakeholders as a successful example of creating SV outcomes because the 78 apprentices, local expenditure, community events and voluntary work for the local population were viewed by the client's, the main contractor's and the supplier's as added value to the construction product. The client's, the main contractor's and the supply chain's interviewees used the experience they gained from this project in their pursue of creating and maximising what they viewed in this project as SV where the suppliers, led by the main contractor, used this project's SV creation as evidence when bidding for work with other clients.

6.2.2 Interviewee Profile

Based on the perceptions of the focus group, discussed earlier, stakeholders who affect the decision-making process concerning SV are client organisations, main contractors and their next level of sub-contractors. Therefore, individuals from the client, the main contractor and two different subcontractors (supply chain members) were interviewed to gain an insight as to how SV was planned, managed and delivered throughout the project. In addition, because a regional construction framework was chosen to procure the project, two more interviewees were chosen from the framework organisation to ensure that an in-depth insight of the case was achieved. To name the interviewees, homogenous sampling of a certain subgroup was chosen to be studied in-depth to provide high quality data for the research (Denscombe, 2010; Saunders, Lewis & Thornhill, 2009). The interviewees were chosen based on their role in the project, their level of influence on SV delivery, their positions in their organisation and their understanding of SV in construction. Table 11 which shows the interviewee profile.

Organisation	Project Role	Profile and Responsibilities	Abbreviation
Client (Local Authority) 1	Head of Public Private Partnership	Involved from procurement to handing over stages. Supervised the delivery of SV throughout the project from the client side. Collaborated with the main contractor to achieve project's SV targets.	CB
Client (Local Authority) 2	Contracts Director of the project	Managed the project contracts and was involved in the procurement processes with special emphasis on SV from the client.	ZF
Regional Framework 1	Framework lead	Led the procurement of the projects with added value being a core deliverable of the framework culture.	IE
Regional Framework 2	Added value coordinator	Coordinated and tracked the social (added) value outcomes delivered through the project and other projects delivered through the framework.	RAC
Main Contractor 1	Project Director & Framework Manager	Had the overall responsibility for the project's delivery which included SV outcomes. Delivered many projects through the framework which had SV among its core ethos.	MG
Main Contractor 2	Senior Regeneration and Community Advisor	Hired specifically to manage the added value of the project. Experienced in delivering SV outcomes through a diverse range of construction projects.	BZG
Sub-contractor 1	Planning & Labour Manager	Coordinated SV delivery with the main contractor and became an internal expert in SV delivery within his organisation.	JA
Sub-contractor 2	Managing Director	English heritage sub-contractor Managing Director. Involved in the delivery of SV throughout the project. Obtains extensive expertise in delivering SV through heritage projects.	RA

Table 11 Case Study One Interviewee Profiles

Many of the interviewees stayed with their organisations after the completion of the project where they gained more experience in SV delivery. At the time of the interviews, most of them were considered experts in delivering construction projects with SV outcomes. The researcher confirms that the main stakeholders influencing SV were represented through the non-purposive sampling when interviewed.

6.2.3 Intra-Case Analysis

The abductive approach depends on building themes from the ground up to extend existing theoretical propositions by discovering new ones. Hence, the analysis used pattern matching logic by comparing emerging patterns with the ones conceptualised before the data collection started, and explanation of building by learning how and why the phenomenon occurred from the actors' perspectives (Yin, 2014). A hierarchy of themes emerged from the data with four themes at the main level and subthemes (patterns) emerging under each main theme. Nvivo software was used to generate and track the themes and organise the subthemes. The main themes shown in figure 34 were as follows:

1. Client led SV delivery.
2. Factors affecting SV delivery.
3. SV characteristics.
4. Systems approach for SV delivery and inclusion as a core objective.

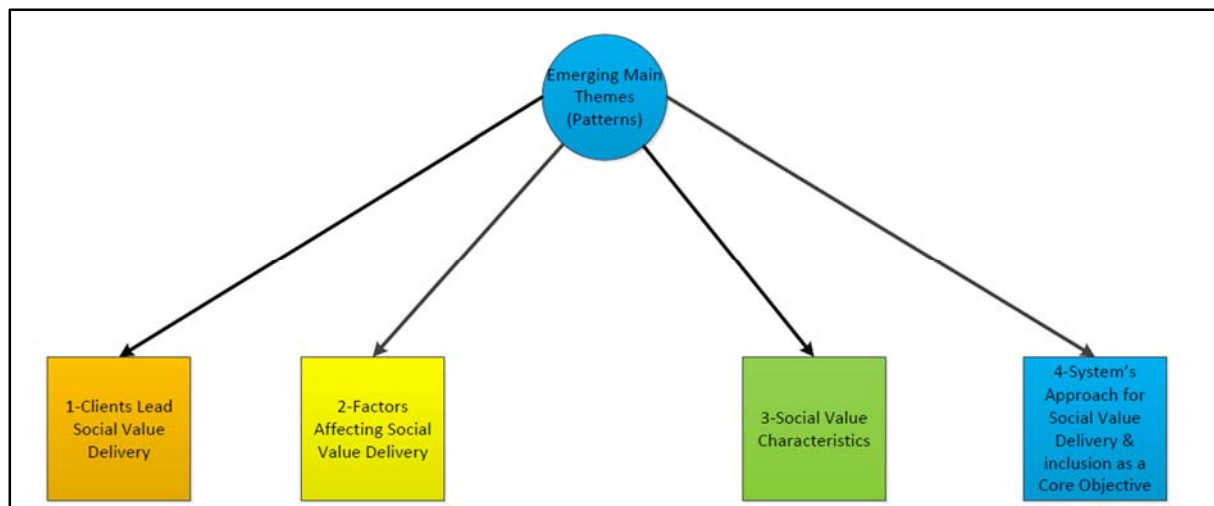


Figure 34 Four main themes emerging through the interview analysis (Case Study One)

6.2.3.1 *Client Led SV Delivery*

Interviewees depicted the client organisation as the initiator of conceptualising and creating SV through initiating, planning and managing and delivering activities which led to the creation of added outcomes. The interviewees saw that the client organisation, influenced by SV policies, provided leadership and achieved what they thought to be a successful construction project in terms of SV. The client's organisational culture, leadership, values and expertise influenced how the interviewees led and encouraged different stakeholders to have similar views about SV and raise its profile. The client organisation was known for using construction projects as a strategic tool to maximise their projects' outcomes and exceed the production of the physical entity through providing guidance, governance and monitoring., Five subthemes linked to construction client impact on SV emerged (see figure 35). These subthemes are:

1. Communication about SV
2. Client experience
3. Client type
4. SV champions
5. Lowest Cost Culture.

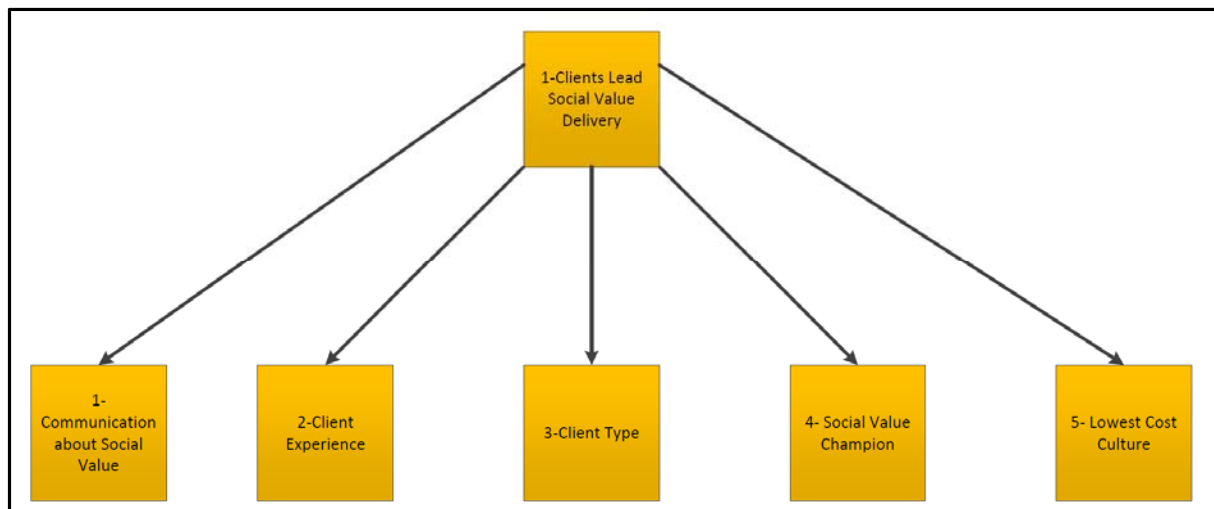


Figure 35 The hierarchy of client organisation's subthemes (Case Study One)

6.2.3.1.1 Communication About SV

The method and quality by which the client communicated (transferred) their requirements to the supply chain and other stakeholders had a significant influence on how the latter understood what SV meant for the client because it shaped how the main contractor and supply chain responded to these requirements. The client's SV communication resulted in sending a clear message to the supply chains about the importance of SV, which the suppliers engaged in to satisfy the client views and eventually win more work.

Interviewees thought that the client's high-quality communication, and emphasis on their views of SV, was enhanced by their choice of the procurement route, the added value questions in the Pre-Qualification Questionnaire (PQQ) and Invitation to Tender (ITT) documents of the construction framework, the client's language and requirements from the outset of the project and how the mini competition was written. Furthermore, the client utilised their business units to provide information about the SV outcomes they depicted as suitable for the local community. Early communication of SV requirements provided a clear perspective for the client organisation about the cost of what they viewed as SV and what they could or could not ask for in terms of it being suitable or unsuitable for the project and their budgets.

6.2.3.1.2 Client Experience

As a highly experienced client, the organisation had the processes, the vision and the knowledge to make decisions which suited their needs about what they viewed as SV. Because of the client's organisation procurement experience they chose a procurement route and contract which supports their relationship with the supply chain to create what they view as SV. Because of the experience the client organisation approached the creation of SV in a unique manner based on the different contexts (social and construction contexts) which created enhanced their knowledge and was viewed as consistent.

Consistency in the client's approach in dealing with different situations, choosing contracts and developing processes to achieve their goals. The client organisation had preconceived ideas about achieving the project objectives because of their consistent success in delivering construction projects, which was transferred to the main contractor, supply chain members and

procurement vehicles, which improved how they reacted to the client's requirements. Nevertheless, the client had some preconceived ideas about outcomes they needed to deliver without checking whether these outcomes were suitable to the project context or not. Some interviewees explained that this was a downfall of the client which developed due to the repetitive nature of their project delivery processes. This led the client's staff to resist change and/or block new innovative ideas of creating SV without properly investigating the suitability of these outcomes to the project, which hindered innovative solutions for the project.

6.2.3.1.3 Client Type

Because the client was a public organisation, they were aware of procurement rules and regulations which could challenge their vision to create SV based on fair competition through targeted local suppliers and workforces. Because the client was a large, secondary organisation delivering educational, health, housing and social sectors' projects making the organisation well informed of procurement rules and regulations that would hinder or support their vision of what SV is in their project. The diverse range of projects and situations enhanced the client's ability to create multiple forms of value which would fall in the client organisation vision about SV and gain knowledge about the creation process. Being a repeat construction client with a large portfolio of work encouraged main contractors and suppliers to react positively to their demands to achieve client satisfaction and win more work.

In addition, the client had the business units to support their activities with information about the local community's needs and market capabilities which assisted them in choosing suitable SV creation requirements to be fulfilled by construction projects. Business units improved local engagement through providing guidance about the geographical areas that would boost local purchasing and local hiring as well as on training providers for apprentices and educational services. Having resource and business units the client had the information needed to create SV according to the client's definition of it.

6.2.3.1.4 SV Champion

The role of organisational champion was important in reducing the gap between strategic level policies and operational level guidance in the project. The project's SV organisational champions used their knowledge, experience drive and their political powers in their organisation to influence the stakeholders' decisions to create value aligned with how the client perceived it.

The client insisted on recruiting a champion to lead SV creation from the main contractors and the supply chain side. Hence the main contractor hired an individual who championed Value creation from the supply side with knowledge and experience in both construction delivery. On one hand, the client's champion enforced SV creation strategically by pursuing the client's high-level objectives and, on the other hand, the contractor's champion managed the operations through developing plans and actions to create SV. It was the client initiative that created the right atmosphere for both champions influence the creation of value which is aligned with organisation's view of what SV creation is for them.

The supply side champion recruitment reassured the client organisation about the contractor's intentions to adopt the same vision about SV creation because the champion transferred the

vision and views of SV creation to downstream suppliers. The champion understood the capabilities of different organisations and worked around them to ensure they are engaged in the project's SV creation activities. Furthermore, the client champion guaranteed the involvement of his/her organisation through ensuring that certain business units were engaged in the creation process and that any information required was provided early on the project. The client champion provided organisational leadership to overcome the internal resistance through transforming tick box exercises to value adding activities by leading groups and discussions to overcome stakeholders' resistance to change. Finally, both champions combined their passion about SV, with their knowledge of its creation, to create what they believed was suitable for this project by providing the drive and knowledge as guidance to different organisations, even if the full picture was unclear.

6.2.3.1.5 *Lowest Cost Culture*

The lowest cost culture (the tendency to choose contractors based on the cost factor only) was perceived by the client and the main contractor as a challenge to SV creation to a certain level in the project. The lowest cost approach forced the main contractor to abort extra training apprentices and increase their local suppliers because of their additional costs. Some individuals in the client organisation questioned the increasing cost to create values such as upskilling the workforce and experienced local suppliers because it was unjustified despite their level of experience. To a level the client was still influenced by lowest cost culture and the economic atmosphere at the time of the project's procurement making them struggle to justify the higher cost of some of their decisions. Policy documents promoting SV creation did not assist the client's procurement staff in justifying their decisions making the perception of paying money for values that were not physically visible was challenging and confusing for some individuals in the client organisation.

6.2.3.2 *Factors Affecting SV Delivery*

The construction project had factors which affected its performance and the values it created which were the subthemes from the thematic analysis of the case study. These factors varied between being strategic and/or operational in nature (internal and/or external). The factors (shown in Figure 36) are listed below and are discussed in more detail:

1. Strategic Procurement Route
2. Project Size (Value)
3. Project Type (One-off or Programme)
4. Design and Construction Characteristics
5. Main Contractor Response to SV Requirements
6. Supply Chain Response to SV Requirements
7. Economic and Local Context
8. Time of Engagement of the Project.

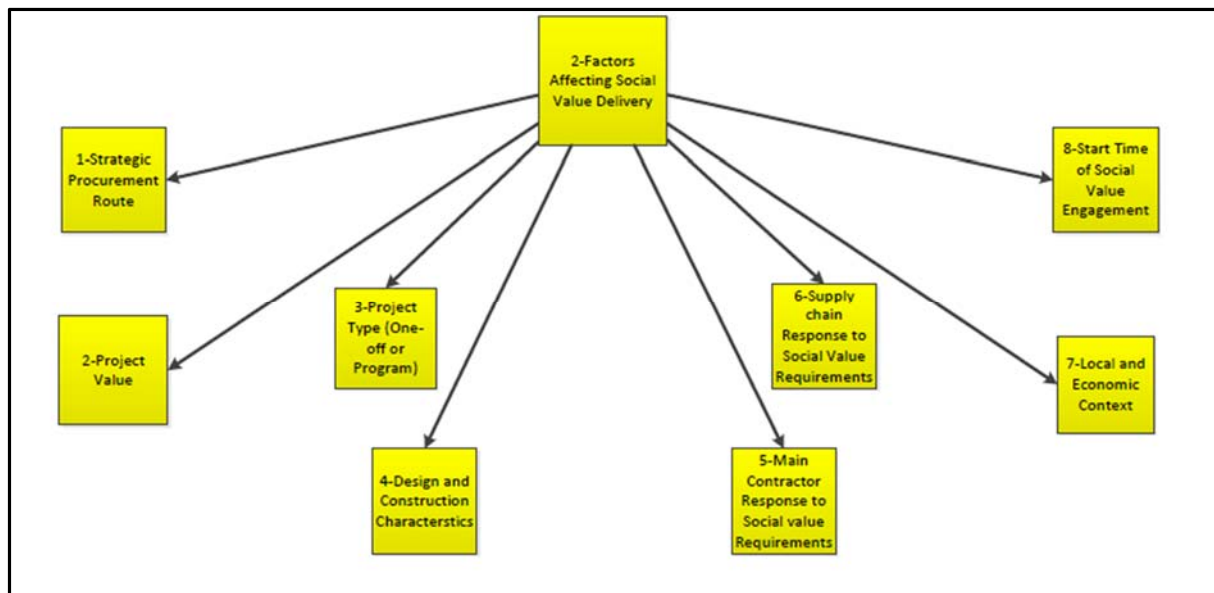


Figure 36 Factors affecting SV creation in a construction context (Case Study One)

6.2.3.2.1 Strategic Procurement Route

Strategic procurement selection was among the external factors affecting SV creation in the project because it supported the client's vision, provided a suitable contract language and set the nature of the relation between the client organisation and the supply chain. The partnering approach was chosen by the client based on their experience with partnering as a suitable method of working with contractors in previous projects because partnering agreements provided common goals between the client and the supply chain.

The partnering agreement supported a collaborative culture between the client and the main-contractor which resulted in the development of shared objectives for the project. The client organisation had extensive experience in collaboration with different supply chains thus becoming the organisation's dominant culture. The client understood how collaboration removed the silo approach and provided integration between different suppliers in the project. Individuals recognised the disadvantages of arm's length relations and realised that it was not suitable for this project's objectives, especially SV creation. The client's SV vision for the project was reflected through selecting a regional framework which had collaboration as its core ethos. Collaboration trickled downstream between the main contractor and the supply chain members because the main contractor chose to adopt the same collaborative relationship with their suppliers.

Reviewing different procurement routes started early enough for the client to examine and compare sufficient routes to deliver the project's key objectives. Thus, the construction framework enabled the client's access to experienced contractors, less time to market, and compliance with EU procurement rules and regulations. The framework provided a different approach towards SV creation, when compared to traditional procurement, where the contracting partners were involved in SV creation as part of the PQQ and ITT requirements to join the framework. This project had a two-stage procurement exercise; the first stage was the mini competition to choose the contracting partner and the second was to finalise designs, costs and select the contract. The mini competition had bespoke questions about SV creation that

were addressed to the contractors which were developed to suit the project context. The construction framework was seen as advantageous in SV creation because the client had the experience and the intentions to utilise it in the creation process.

Finally, the client's experience with different types of contracts led them to choose a contract suitable for the project's collaborative approach. The contract was selected based on previous experiences between the client and the same main contractor in working collaboratively with the same approach. The contract choice supported the project's characteristics (as a heritage project) whereby it covered the client's requirement to share pain and gain with the contractor and properly manage the cost of a heritage project (which varied depending on the state of the building being refurbished).

6.2.3.2.2 Project Cost

The high monetary value of the project provided the client with leverage and bargaining power over the main contractor during the procurement and construction stages. The client saw the project's budget of more than £90 million as a tool to support their pursue of having a collaborative partnership with the main contractor which they saw as being influential to their vision of SV creation. The main contractor shared the believe into what the client suggested because of the magnitude of the project and the volume of work it included.

The high value budget of the project was perceived as a ground-breaking opportunity for both the client and the main contractor to innovate and kick start new methods of value creation because of the amount of money being invested and the diverse range of activities being delivered. Because the high value project offered a large pipeline of work for the main contractor and supply chains, it offered the client with bargaining power to create extra SV outcomes. The guaranteed volumes of work encouraged the main contractor and the supply chain members to create different forms of values, such as local recruiting, local purchasing and developing local training and education programmes. The diversification of SV outcomes was owed to the diverse range of trades to which the outcomes can be attached. The project's high value did not automatically guarantee opportunities for SV creation because it was up to the client organisation to utilise it and add value to the project.

Oppositely, the project's high value created a challenge for the client because of the pressure and scrutiny on how the budget was spent. As a result, the client was pushed towards delivering more of the physically quantitative outcomes and less of the non-quantifiable outcomes to satisfy the public. Finally, the project cost was mostly spent on construction activities and not equipment which offered flexibility to the client, whereas, if the value was high because of equipment it would have limited the SV created.

6.2.3.2.3 Project Type (One-Off or Programme of Work)

The project was a one off (stand-alone) project, (was not linked to other projects owned by the client) which impacted the continuity of SV creation which is influenced by the type and volume of outcomes of the project. As a one-off project, the client did not have the same bargaining power, when compared to longer programs of work. To clarify, construction programmes procured by the client provided more bargaining power than a one-off project over the suppliers because of the expected volumes of work they had to offer. Most interviewees

thought that procuring projects as a programme offered a consistent approach to managing the outcomes which leads to SV creation and increasing them, especially apprenticeships and local suppliers, because the continuity of work improves the visibility of different trades and work available for different contractors. The sub-contractors' view on programmes of construction was that apprenticeships could complete their training because of the longer duration of work (especially trades requiring more than a single project to complete training). The main contractor interviewees stated that, despite the benefits a programme of work offers, it was difficult to manage trades and workforce between projects, from a main contractor's perspective, if project's outcomes were to be local through the programme. Managing head-to-tail activities was challenging for main contractors if the trades were not aligned consecutively, leaving time gaps within the programme and preventing the achievement of continuity.

Nevertheless, the high value of this project compensated for it being a one-off project in terms of the volume of work available for the supply chain members. In addition, the client procured the project through a regional framework which was perceived as a tool to aggregate the demands of different public clients and thus provided bargaining power for the client in the form of continuity to contractors. The client was supposed to utilise other clients' pipelines, through the framework, to guarantee work for suppliers and thus have more leverage over these suppliers to create more SV. However, the framework was not developed at that time and did not have the proper mechanisms to create a consistent pipeline, through different clients, resulting in the inability to extend outcomes beyond the project's duration. Hence, the opportunity to further support the recruitment, by moving the apprentices on the project to other projects through the regional framework, was missed. Sustaining apprentices was difficult on the project because it was a one-off project.

6.2.3.2.4 Design and Construction Characteristics

Design and construction characteristics had an impact on SV creation because they increased local market engagement. Having a specialised element could have reduced the level of local engagement through blocking local suppliers or untrained local workforce from working on the project. Whereas, having generic elements could have improved the opportunity of local engagement in the local area. This would have been the case for the project being an English heritage refurbishment, which depended on specialised suppliers available on a national level and not a local one. However, the project team broke down the specialised construction activities of the project into generic trades to invite more contractors to bid for work and enhance the opportunities for local market suppliers to win work. In addition, the project team developed methods to involve up skilling of generic suppliers to work on English Heritage projects by training them to deliver large packages of specialised work. Despite the main contractor's late involvement in the project (after the start of the design activities) the project team knew, from previous work, that the project was labour intensive and thus could accommodate more apprentices and training programmes. The project's design characteristics offered more SV creation opportunities compared to other projects because the project team broke down design elements and construction activities as soon as they got involved in the project, giving them time to intervene. The main contractor hired several design consultants to understand how, as an English heritage project, they could hire and up-skill local suppliers. This meant that financial resources were required to invest in the design stages and to utilise

design and construction characteristics in delivering outcomes which created SV. Hence, using the design and construction characteristics depended on the main contractor's early engagement in the design and construction delivery and how they could use them for their own benefits. Furthermore, breaking down and analysing the design and construction activities was economically driven, by the main contractor, and the suppliers, because deskilling the construction activities could let them buy packages locally which reduced the cost for the client and the main contractor.

It was noted that the design and construction elements were under developed (analysed) because the main contractor joined the project after the start of the design stages thus reducing the delivery outcomes leading to value creation which could have improved if further design analysis was done. Because of the complex nature of the building, the designer and the contractors could not further analyse the old systems, because of time constraints. Finally, materials selection was an element of the construction and design activities which influenced local engagement, as some specialist material suppliers had a monopoly on certain materials which thus lessened the contractors' ability to negotiate greater margins. On the other hand, common and generic materials would assist the contractors to negotiate benefits from their suppliers because of highly competitive markets in this sector.

6.2.3.2.5 *Main contractor's response to SV requirements*

The main contractor responded to the client requirements before the mini competition took place, which reflected the knowledge and experience in dealing with the client. The main contractor had a good understanding of the client organisation which lead them to respond to the client's SV creation narrative by planning and taking actions which suited the project and fulfilled the client's requirements. The main contractor responded to the client's requirements in the procurement documents, through providing a detailed action plan on what activities' they would do and how and they utilised their SV strategies which were put in place to provide community benefits, even if these were not required by the client. The result of providing this detailed plan was that the client had a clear view of what was being created and could visit this plan during the project and assess it at any time, to make sure that their objectives were being delivered. The main contractor's SV designated team applied innovative approaches, which were triggered by their organisation's willingness to improve their local engagement and to up-skill their staff to achieve the SV goals articulated by the client at the outset of the project. The main contractor recruited suitable individuals, who provided the knowledge and experience to manage the client's expectation successfully, which reassured the client, that their SV demands were taken seriously and increased trust between the client and the main contractor. Hence, providing suitable personnel was part of how the main contractor in this project responded to the client's demands.

The main contractor worked with different client organisations creating SV through their projects, making them able to adjust their approaches to create SV for this project. The main contractor chose outcomes suitable to the project and managed the project's limitations. For example, certain types of apprenticeships were not suitable for the project because it needed a longer duration to be completed, so they aimed at achieving sustained apprenticeships and focused their recruitment strategy on such an approach.

The main contractor's leadership for the supply chain members was important for SV creation because they understood how to approach, encourage and manage the downstream suppliers. The main contractor's approach towards the supply chain members was part of how they responded to the client's SV creation requirements and was a deciding factor in the delivery process. The way that the main contractor communicated their needs to the suppliers clarified how committed they were towards creating SV and encouraged the suppliers to try and satisfy the main contractor.

The main contractor did not include binding SV creation requirements in their contractors with the suppliers because they wanted suppliers to create their own plans and view it from an innovative perspective. The collaborative approach between the client and the main contractor was cascaded downstream the supply chain by the main contractor to encourage further engagement. The main contractor's engagement with supply chain members started early in the project to provide the suppliers with the time they needed to understand the SV creation and to investigate the suitability of incorporating it into their business models. The main contractor continued their guidance and supervision of the suppliers during the procurement and construction phases to ensure that their targets were delivered and that the suppliers remained committed to the process.

Finally, the main contractor understood how both the suppliers and the local markets worked, which led to the naming of suitable outcomes for both the project and the suppliers and thus developed a competitive advantage in the market. Understanding different types of businesses and how they function was important to SV creation by the main contractor. Suppliers' attributes varied based on their experience and volume of work, which was understood by the main contractor, so they provided support for suppliers. The main contractor helped suppliers in the recruitment process by providing local market information which meant that these suppliers did not have to create SV on their own and that the main contractor would partner with them in the task. The main contractor's eagerness to create SV encouraged suppliers beyond the first tier of sub-contractors to commit to delivering SV outcomes, such as apprentices and local purchasing.

6.2.3.2.6 *Supply chain members' response to SV requirements*

The tier 2 suppliers engaged in creating SV as the main contractor provided the leadership (as the client's approach towards the main contractor) and applied a similar process of managing requirements and tracking outcomes. The main contractor could not have created the client's SV vision without the engagement of their sub-contractors. The main contractor's experience and understanding as to how to communicate with their supply chains was important for the suppliers to deliver outcomes. The suppliers' responses and engagement therefore ensured the creation of SV. Levels of experience of SV outcomes varied between suppliers based on their business model and their trade and financial profile.

The large experienced supplier had an established track record in SV creation where they differentiated between a project with the potential to create value and another without. This supplier had a similar approach to the main contractor, where they investigated the local context to plan how they were going to create SV and its outcomes. SV considerations by the supplier

had an economic impact on the performance of the supplier as well. Their regional office had experience of buying locally and possessed information about local supply market capabilities which helped them engage with the local community. In addition to working locally and buying locally, the regional office performed their own market research to map local suppliers which offered them with economic advantage. The subcontractors' business (economic) model influenced their reactions to the SV requirements where the large subcontractor had a national level business model and their own CSR policy. This model benefited this organisation in bidding for work with SV requirements and reduced the skills shortage; for example, apprenticeship programmes offered this subcontractor a low-cost workforce and skilled workers once they had completed their apprenticeship programmes.

The smaller supplier delivered outcomes as a response to the main contractor's requirements (for example, buying and hiring locally) when they did not fully understand the reasoning behind such requirements. The smaller supplier did not have the resources to manage the delivery outcomes within the project's duration, therefore, the main contractor's guidance was necessary to the smaller supplier in creating SV. Both the large and small suppliers purchased locally for commercial reasons because buying locally saved time and money through reducing delivery costs, improving transportation safety by reducing time on the road and reduced their carbon footprint by reducing travel distances. Finally, in this project a few tier 3 suppliers created SV outcomes when their employers, the tier 2 subcontractors, approached them using their bargaining power and their pipeline of work. The tier 3 suppliers who did not engage were either national suppliers over which the upstream members had no bargaining power, or they were very small organisations which did not have the capabilities to create any added value. Despite their limited capabilities, hiring tier 3 suppliers was considered SV creating to the local markets because they sustained existing jobs and created new ones through hiring local workers. Thus, when tier 2 suppliers hired tier 3 suppliers without specific requirements they created SV outcomes in the form of an economic multiplier.

6.2.3.2.7 Economic & Local Context

The economic and local context was a factor affecting the performance of the project and the creation of SV. The client knowledge about the local market capabilities affected outcomes through the availability of certain trades and suppliers in the area as buying locally increased local community benefits. Thus, suitable opportunities to deliver value adding outcomes were exposed through local supply market knowledge. Moreover, knowledge about what the local community needed assisted in conceptualising the value adding outcomes needed from the project. The local labour market required up-skilling which the client picked up and targeted certain local workforces to train. The local population needs influenced what the project delivered and who it served. To clarify, this project's local area was near a city centre, hence it was not heavily populated, which created a social demand different from those coming out of a heavily populated area. Local market capabilities were different from other areas which made the development of a standardised SV creation method very difficult for the client organisation.

The client utilised their business units to build knowledge about local population needs and local market capabilities. This knowledge assisted the client in managing their expectations based on what they have available through a realistic picture about their local community needs

and capabilities. Also, the main contractor's regional offices, with their staff being local, had knowledge about local market capabilities. The regional office provided the main contractor with information about local supply market capabilities from a local perspective. The main contractor had local context knowledge which they build a different picture for the client about their expectations and deliver what was suitable without committing to unrealistic goals. The main contractor tried to satisfy the client and buy locally but did not commit to that if there was any economic burden on them. In addition, the two supply chain members (tier 2 contractors) engaged in buying locally; however, they did it from an economic viability point of view where a reduction in the carbon footprint, savings in transportation costs and shortening the duration to site was an incentive for buying as much as possible from the local market. Some suppliers investigated the local markets properly because they had an economic justification to do so.

Furthermore, the national economic environment had an impact on SV creation expectations for the project because it was reflected on the regional and local markets. The client knew that the project was impacted upon by the financial downturn at the time of the procurement which increased the pressure on them to create SV outcomes. Nationally, the economy during the construction period caused suppliers to be hesitant about taking on a sizable workforce or trainees because of a fear about not being able to sustain them due to the economic stagnation at the time.

6.2.3.2.8 *Time of engagement with SV in the project*

Planning the project to deliver its strategic objectives was a lengthy process making the early engagement with the project a necessity to provide multiple options for the different phases, such as procurement, design and construction to satisfy the client requirements. This project was planned significantly early where the client saw the need for early engagement with a construction framework to procure this project. The construction framework enabled early planning of the activities leading to SV creation and depicting when they were needed for the project. Knowing the capabilities of the framework at that point in time the client decided early on to track several KPIs which they could assess without over aiming. Thus, early engagement paved the way for SV creation to be a core objective and a fundamental part of the business case for the project.

Early engagement impacted the design decisions which accommodated the opportunity of the SV outcomes creation. Early engagement was passed down the supply chain from the main contractor to the suppliers whereby the main contractor adopted the approach they had from the client which was the early engagement with SV creation as a core objective. Even with the perceived success of the project in creating SV outcomes (and considering it a breakthrough project for SV) all the interviewees thought that engaging with SV creation earlier would have improved the outcomes by helping the client to better communicate with their local agencies and to review local opportunities.

6.2.3.3 *SV Characteristics*

SV outcomes had three characteristics which impacted on the SV creation and the performance of the project. Figure 37 shows the subthemes emerging from the analysis of SV creation characteristics. These subthemes are classified as, firstly, the challenges facing SV creation and

how they impacted the outcomes (such as the inability to choose suitable outcomes, the lack of guidance for procurers and clients to reduce the gap between SV strategic objectives and operational goals, and the inability to assess the impact of SV outcomes). Secondly, the economic nature of the value created through the project. Finally, the historical one of how organisations progressed their SV creation and how the performance of the client, the main contractor and suppliers changed over time and to what extent.

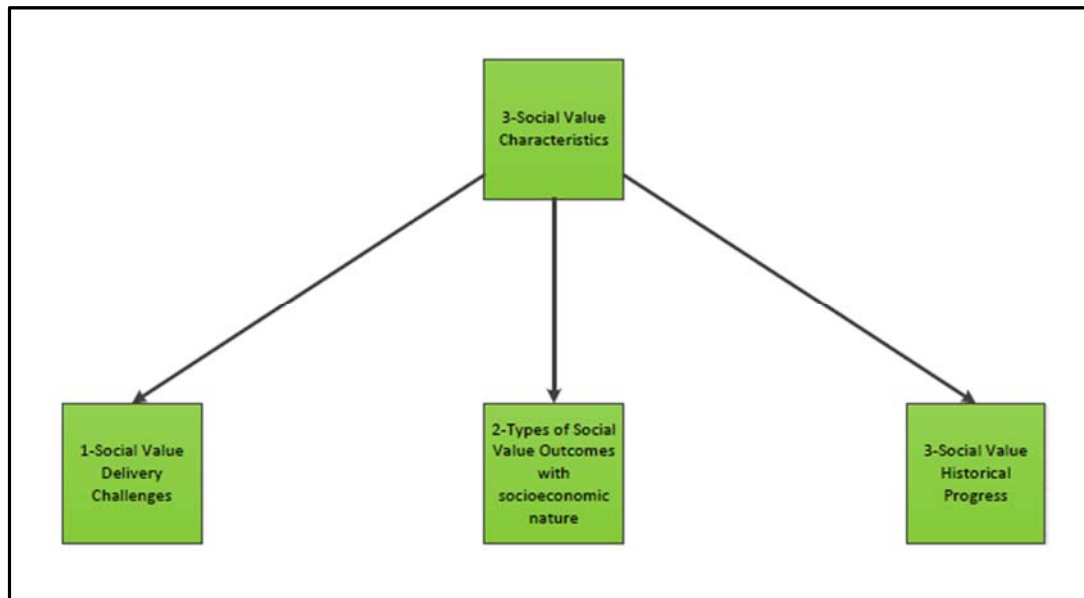


Figure 37 SV characteristic subthemes (Case Study One)

6.2.3.3.1 *SV delivery challenges*

Creating SV was challenging to the client and the supply chain members involved in this project from three different perspectives. Despite their SV creation through this project, the client did not have a sound approach to depicting the outcomes they would be delivering. To clarify, it was some individuals' previous experiences that formed the types and amounts of outcomes. The numbers were not linked to a certain methodology or tool rather they were based on past projects and norms of work. The client created SV once they had chosen what type of the outcome to create especially the ones they had created previously. However, the client had a fragmented approach towards selecting these outcomes because there was a lack of methodology that can assist the client in defining these outcomes and their volumes. The problem with creating SV was linked to the client's over estimating the numbers of outcomes without managing them appropriately and without having the suitability capabilities to create them. Even with the client being experienced the economic and local circumstances surrounding the project changed, causing previous experiences to be irrelevant.

Vague SV legislation caused SV creation to be less developed than environmental value creation wherein there was a lack of processes assisting procurers to transform strategic objectives into operational level capabilities because high level legislation's vagueness was challenging for the project team to deal with. This was because of the gap between the strategic level objectives, in policy documents which had no guidance and the operational level documents which were non-existent. In some cases, value creating outcomes were translated to outcomes and deliverables based on different interpretations from different individuals. A

simple exercise such as understanding the local boundaries of geographical areas was challenging without guidance and became more problematic when trying to justify how such boundaries were decided upon without having methodologies or guidance processes.

Another problem with SV creation in the project was the inability to assess the impact of the value creating outcomes on the local communities and populations. The client understood the benefits of assessing them; however, they could not assess these outcomes properly. Assessing value creating outcomes was attempted through calculating local economic multipliers but it was only partly performed. Using KPIs to track different types of deliverables was introduced within this project because it was linked to the ethos of the client and the framework, but it was relatively new and there was nothing to benchmark them against. Even with the efforts made to create SV outcomes throughout the project, the approach was not mandatory in any form. Assessing SV outcomes performance of different project suppliers and participants was important for the client because they can get a realistic view about their local community's capabilities and potential to deliver their strategies and plans.

6.2.3.3.2 SV outcomes with socio-economic natures and their types

The outcomes the client chose were economic in nature types; for example, apprenticeships and local buying were two important outcomes to the client, as mentioned by the interviewees, with both outcomes having a socioeconomic nature. Outcomes with a socioeconomic nature were chosen because they were easily quantifiable and were converted into man hours.

These socioeconomic outcomes were chosen to impact the local economy and were triggered by the economic hardship all over the region which left the client pressurised by the public to justify their expenditure. Socioeconomic outcomes created economic multipliers in the local markets because of the jobs and the revenue streams created in the local market which justified the client expenditure in activating local economies. Politicians influenced the choices of the client as, being a public-sector client, they were more interested in socioeconomic outcomes especially in job creation because of how such outcomes supported their position in terms of public accountability. The client argued that the delivery of apprentices as a requirement within the SV creation objectives and this was supported by different suppliers because apprenticeship reduces the shortage of skilled workers wherein the suppliers can up-skill their apprentices without a significant amount of pay. The apprentices adapted to the suppliers' circumstances, such as project durations, a diverse range of activities and the many disciplines they had to cover. Apprenticeship programmes for some trades were considered an economic opportunity to teach and train the workforce that had been hired at a lower wage than average which made it less of a cumbersome task and more of a beneficial exercise. The main contractor understood the nature of their suppliers and their projects and how the duration and availability of the trades within this project impacted the apprenticeships being offered. The project duration was not long enough for new apprentices in some trades which the main contractor understood and thus they designed their apprenticeship and training programmes to suit their suppliers and not become a burden on them.

The engagement of local suppliers was a form of value creating outcome whereby the client encouraged the contractor to buy locally to create economic multipliers through the local

companies which employed the local workforce. Local buying was project based and depended on the capabilities of the local market and in the reduction of carbon emissions which the client encouraged. As mentioned in the business models, it was more beneficial to hire local suppliers because it saved time and transportation costs on top of creating an economic multiplier. Local buying can improve if contractors' breakdown their project components to suit the local suppliers.

There were SV outcomes without a socioeconomic nature, such as education support activities, building site tours during and after the development, careers advice and community engagement. Also, light touch landscaping and cleaning activities were planned to improve the overall experience of the local communities without having a socioeconomic nature. The main contractor legacy in the local community was part of the benefits they got back for delivering SV because it enabled them to win more work. Finally, the recruitment process for the apprentices and the local workforce was via a generic approach, whereby the apprenticeship programmes did not generally target certain groups who might need specific types of support.

6.2.3.3.3 SV historic progress

The client, the main contractor and the suppliers' SV creation improved after the project was completed. The client has started asking for more Value creating outcomes to be delivered through their construction projects. Despite the SV Act being vague and unclear, the client has progressed in SV creation despite the lack of knowledge and processes because of the assisting processes and techniques (such as KPIs and SROI) to deliver SV outcomes which have emerged recently. The main contractor changed their methods of creating SV as a response to their clients' requirements. The main contractor took their vision of creating SV in this project to later projects where they benefited from the outcomes, they achieved in bidding for other clients' projects who demanded SV. In addition, they used the know-how that they gained through creating SV in the project to promote their business to other clients. Because of the changing dynamics of SV demands from public sector clients, the main contractors changed its approach towards these demands by paying more attention to the SV requirements. The construction framework assisted in creating diverse SV outcomes, as the wide range of experience which they gained from different clients, contractors, projects and outcomes created a momentum and changed the behaviour of clients and contracting partners so that contractors and clients who have already created SV have passed their views to contractors and clients who have started taking this route. This behavioural change has ensured that value creating outcomes were included in the core objectives of construction projects.

Finally, tier 2 suppliers from all levels have started to develop their own approaches and initiatives regarding SV creation to win more work because different clients were asking for it more often. SV changed from being a sustainability by-product among economic and environmental goals to an independent objective. Tier 2 suppliers changed the way they responded to and approached their main contractor's SV requirements because they had more experience with SV creation methods and terminologies. Also, they gained knowledge about aligning their activities with the client's SV requirements. The suppliers used these experiences in other projects where they gained a competitive advantage over other suppliers because of this knowledge.

6.2.3.4 Systems approach to include SV as a core project objective

The investment decisions in this project were complicated due to the wider objectives (rather than a limited focus only on construction outcomes) wherein the project was procured based on numerous factors affecting the process which could not be ignored. This complicated process created a need to include a wide range of factors and consideration in the construction project management process through a chosen method and a need to ensure that the key stakeholders are included in the decision making. Different contexts in construction projects lead to a diverse range of SV outcomes to choose from which was why multiple factors which influenced this project needed to be included in the decision making.

Accordingly, the client delivered construction projects through a gateway process which included different SV demands whereby a gateway is divided into phases and gates. The gateway processes guarantee SV early inclusion in the project planning, that it is amongst the project's core objectives and that it will not be neglected, thus ensuring that the project objectives are aligned with the client's SV strategies mandated through the project. The gates within the gateway process ensure that SV is included in the core project objectives and that it is dealt with in a way similar to the design, construction, health & safety and environmental objectives. This gateway meant the inclusion of SV in the core objectives of any project coming out of the client's plans as the inclusion of SV in the core objectives ensures that there is a constant review of its performance, and early involvement in planning, procurement, design and construction. Finally, previously SV had not been included in any processes and thus had not been delivered. This project was one of the first projects for the client to include a strategy for SV delivery where the project's high value helped the client to support the need for an organised process to implement SV which was apparent through their gateway process utilised in the project. The organised process controlled the collective efforts of different individuals from different entities to deliver SV in a consistent manner.

6.2.4 Case Study Rich Picture

Following the SSM, a rich picture was built to visually represent the complicated relationships between the project, the stakeholders and the interactions between factors. Rich pictures can be represented through drawings, symbols, shapes or any other method to create a visual representation of the problem situations. Therefore, the researcher chose to use shapes with written descriptions in the creation of the rich picture to reduce confusion for the readers and to improve the understanding of the problem situation.

The rich picture shows the relationship between the client, the client's business units, the local context, the local population, the main contractor and the supply chain members who were involved in creating SV in this construction project. Firstly, the client led the delivery of the construction project using their experience, the existence of organisational champions, culture and skilled individuals. The client's engagement with SV creating activities began as early as the pre-procurement stage of the project. The client started by collecting information on the local population needs and local market capabilities via the different business units that interacted with the local context to gather this information. Information about the social needs that the local population required was available in the business units, such as regeneration, skills and education. Information about local suppliers' geographic boundaries, local suppliers

and market capabilities became available through the different business units. Hence, the local context was covered through these different business units.

The client knew they wanted a collaborative relationship with their supply chain, therefore, they chose a regional construction framework with the ethos which supports collaboration between clients and main contractors. For the contracting partners to join the framework they had to respond to a PQQ and ITT of the framework which included SV creation as part of it. The framework formally had partnering relations as the legal agreement which supported collaboration among different parties. The procurement choice created a dialogue of SV requirements transferred through the framework agreement which offered bespoke requirements to be added to their mini competition in addition to the PQQ and ITT. Accordingly, clients used their resources, capabilities and experience to support SV creation.

The main contractor responded to the client's SV dialogue and requirements based on the level of interest the client expressed through their procurement and negotiation. Commercially, the main contractor aimed to satisfy the client and enhance their opportunities of winning future work, therefore, they created SV to a level that satisfied the client. To deliver what the client asked for, the main contractor had to interact with the project in variable phases for different reasons. The main contractor analysed the design and construction characteristics early in the project to manage the value adding outcomes through design and construction. Collaborating with the client, the main contractor delivered SV through the information they received about local context and the construction characteristics. The main contractor replicated the approach of the client towards their supply chain members with a collaborative relationship and partnering-like agreement so that the suppliers were engaged in SV creation. The whole of the supply chain then delivered actions such as apprentices, buying locally, community engagement events and up-skilling the workforce through their work packages. These packages led to SV outcomes such as an economic multiplier from buying locally and hiring a local workforce, improved workforce capabilities due to training and education programmes and the improved performance of local suppliers as they became more aware of SV creation as a unique selling point. These outcomes impacted upon the local population for who the SV creation process started. Extended effects across the whole of the local population and the market were created because of the SV outcomes however, assessing the exact impact of the outcomes on the local was not possible.

Despite the satisfaction of the client, the main contractor and the suppliers had with how SV outcomes were delivered it was clear that the processes could have been further improved. Firstly, the client could not extend the benefit for the local community in the form of apprenticeships and supplier engagement beyond the duration of the project despite procuring through a regional construction framework which other clients have procured through. The framework at the time of the project did not have a proper pipeline or the required experience to transfer apprentices or suppliers across different projects. In addition, the client organisation did not stress the importance of apprentice and supplier transfer to other projects to either the framework or the main contractor. Furthermore, the client did not use their pipeline of work (which consisted of large packages of work) to transfer the outcomes. Despite their experience the client did not link several projects together in terms of SV outcomes. Secondly, the main

contractor and the suppliers agreed that further analysis of the work packages, in terms of design and construction, could have been carried out to yield more SV outcomes if they had been involved earlier in the design exercise. The main contractor and suppliers were involved in the later stages of the design, which, despite the success of the project, reduced the outcomes delivered by the project. The rich picture is shown in Figure 38.

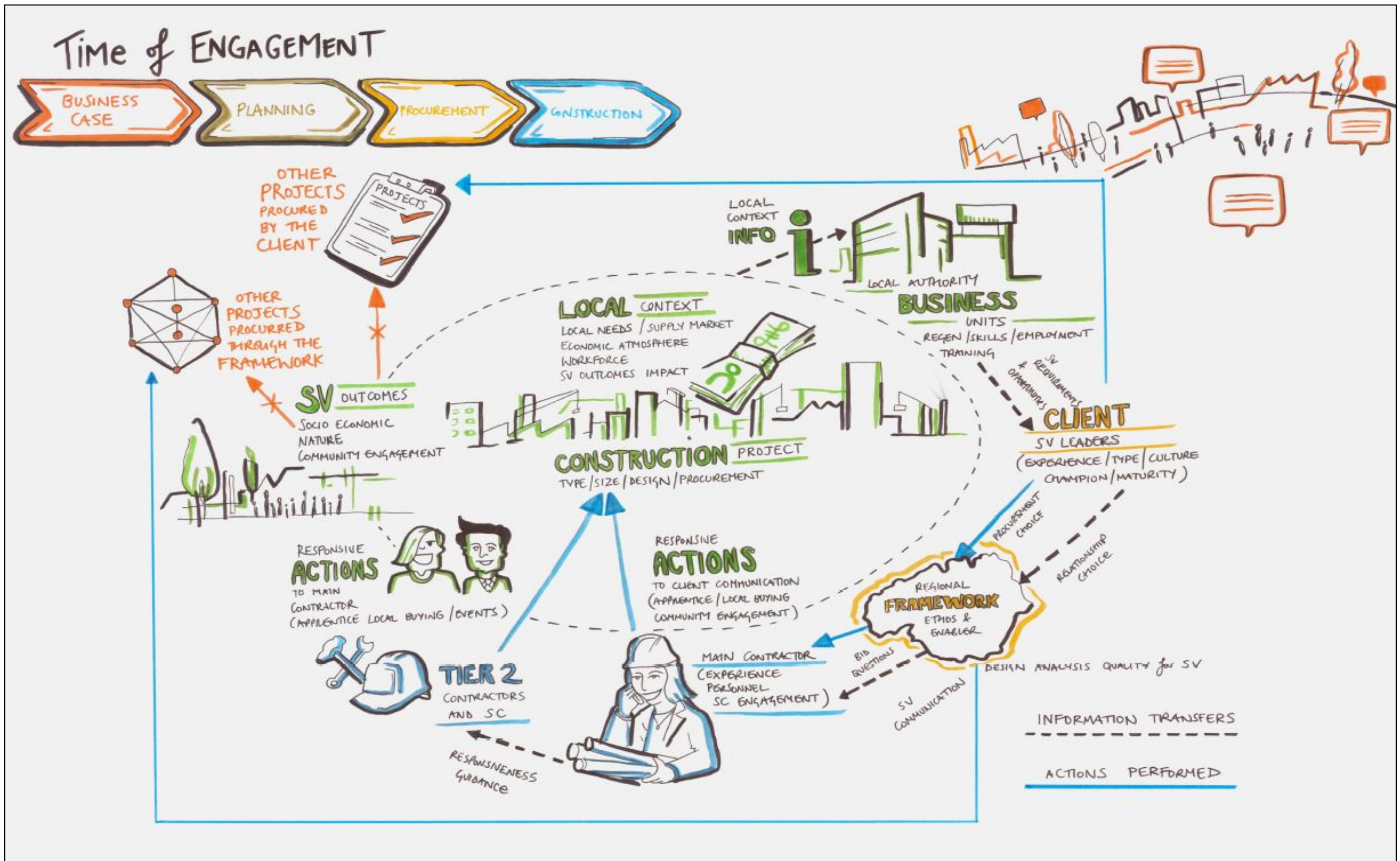


Figure 38 Case Study One Rich Picture

6.2.5 CPTM and HAS models

The interview questions designed to develop HAS models is analysed in the following sections to show how the researcher designed a unified CPTM and its subsystems (HAS) models.

Improvement Model A: to maintain a system structure this improvement names the personnel and staff members needed to carry out all the system activities and match their skills with the requirements of these activities. The limitation for this improvement model is the human resources required.

Improvement Model B: The entire public client team must understand that public projects are more than just a finished physical entity and that a consideration of what the building can add, other than a construction project must be included in their work. Public teams need to think about their projects from the community perspectives before projects are planned and procured. This improvement is the responsibility of the local authority because of their buying power and their ability of influencing the decision-making process and the leadership they have across the supply chains. The improvement is implemented by independent sustainability experts to liaise between local authorities and the contractors because contractors have a wide base of SV delivery knowledge in different regions, different types of projects and private sectors. Contractors do not have the intimate knowledge of the specifics of what the client wants, in terms of SV which is why both organisations must be involved under the supervision of independent parties. Resources are the limitations of the system because paying and naming experienced personnel to do the right thing requires someone to think about the cost and pay for the resource.

Improvement Model C: The improvement is to look at the project design and construction elements and various activities in a much earlier stage to produce SV through deskilling the workforce by simplifying the work packages. This could change several design and construction elements to suit the local market because there are opportunities to improve the skills and knowledge of young people through these activities through exposing them to these construction experiences and working environment and improve local supplier engagement. Suppliers can train young people quickly so that they get a basic knowledge base to be productive for organisations. This improvement would benefit the local market through giving more opportunities to local populations to achieve personal development, get jobs, secure these jobs and improve their careers. Suppliers and designers with the experience and knowledge base from the contractor side at the right stage can execute this improvement through activities where local suppliers can gain work and experience. The limitations for this improvement was not clearly identified but logically time and effort needed to break down construction elements was constraining.

Improvement Model D: The improvement suggested that the client organisation would include SV outcomes in its construction (capital projects) gateway process to tease out projects which are going to offer a tangent to SV strategic policy. To update the gateway to mandate SV in the business cases through reviewing the project opportunities and ensure it is built in the project specification. Developing a business case for a construction project must include SV content and should not pass the gateway unless there is a plan for implementation and a clear definition

of the project opportunities which must be documented for reference. Once the project is approved anyone involved can use the documents of the gateway in insuring SV is delivered. Accordingly, this improvement includes SV as a core objective and an intrinsic part of the project and not as a by-product of it changing SV delivery to a similar status as design and construction activities. This improvement ensures early engagement in SV delivery making it part of the project landscape, guaranteeing that suppliers will engage as early as possible. The improvement is the responsibility of the client organisation and its business units involved in issuing SV policy.

Improvement Model E: This improvement would name outcomes suitable for construction projects according to project characteristics, which the main contractors could build their delivery plan around. Having many options to analyse during the development and delivery process can waste the efforts of delivery teams when investigating the delivery. The outcomes can be a wide range of deliverables which must be investigated properly before selecting suitable ones which can be wasteful for the client resources and time. In contrast, having a limited number of options, such as apprentices and local purchasing only, would limit the creativity of the client staff in naming more outcomes to deliver through their construction projects. The improvement explores the strategic policies of the client organisations to decide on the SV outcomes which the local authority is interested in delivering because they carry local meaning to the client organisation. The improvement will be carried out by the local authority's SV champions or leadership.

Improvement Model F: Improving the understanding of the local needs early in the project through early engagement with the local population about the possibility of them benefitting from construction projects in the local areas. This improvement must be applied before the main contractor and the suppliers are appointed to provide more time for investigating the local needs and match it with the what the project offer. For example, recruiting early before the procurement starts would help the client organisation to name possible candidates and targeting certain groups in need for engagement. More knowledge about local needs would help suppliers as well because it provides them with the data needed to deliver to the full potential of the project. This improvement is done and decided by the client organisation different business units within the limitations of the client organisation resources in terms of time and finances.

Improvement Model G: An improvement to extend the SV outcomes delivered through a construction project beyond that project duration through transferring these linking the project to either other clients' pipelines or different projects from the same client. These projects are perceived by the client and the procurement vehicle organisation to manage the timing where it would be suitable for the projects and the beneficiaries to transfer from the one project to another. The improvement was suggested because case one project, despite having a high value, could not secure the full length for apprenticeship training programs to be completed. This improvement will integrate the efforts made by different client organisations to deliver SV and create a long-term impact to their outcomes through planning projects together and aggregating them according to their location which would assist different beneficiaries such as local workers, apprentices and suppliers in transferring easily to other projects. At the time of development, the idea of extending SV benefit beyond the project was not clearly established

so the client did not worry about sustained recruitment through transferring them to the projects that were happening in the vicinity.

Improvement Model H: This improvement model was developed from the rich picture analysis where procurement played an important role in supporting the collaborative relationship between the client and the supply chain in promoting SV making the contractual approach towards construction projects very important. Using a regional construction framework aimed to achieve a supportive partnering relationship between the client and the main contractor which offered the right atmosphere for SV delivery but needed to be accommodated by contractual language which supports such an approach. This improvement can be applied by the procurement teams from the client organisations who would select the contractual approach suitable for the construction project.

Improvement Model I: All interviewees' models and their root definitions agreed that the construction clients are the system's owner making them ultimately the owners of all improvements. Therefore, as part of maintaining a systems configuration this improvement names the long-term goals of the client organisations during the construction project delivery.

Improvement Model J: This model depicted the constraints or the E element of each system's CATWOEs with a different understanding of what hinders or limits the implementation of SV. Therefore, this model was designed to include the diverse range of constraints in the modelling process based on the inputs from the key stakeholders of the project who have an impact on SV, named earlier as the clients, the main contractor and the suppliers.

CPTM Root definition

A system owned by the local authority in the North West of England and operated by a selected team from the local authority, the main contractor and suppliers and their business units of procurement, skills and employment, capital investment, construction, design and sustainability to improve the delivery of SV outcomes for the high value single projects that they publicly procure through increasing local community engagement in the delivery of the project's construction and design activities. This system serves the local community and populations which the client organisation is responsible for. The system works within the limitations of the OJEU procurement rules and regulations, the financial resources available for the project, and the local market capacity to achieve the client's long-term objective of continuously generating SV outcomes for the local population for a long duration.

CPTM CATWOE Elements

T - To improve the delivery of SV outcomes for high value single (one-off) projects.

W - Increasing the local community engagement in the delivery of the project construction and design activities the SV outcomes delivery will improve.

C - Local community and population (individuals and businesses).

O - Regional local authority aiming to improve the delivery of their SV outcomes.

A - teams from the local authority, the main contractor and suppliers representing procurement, skills & education, capital investment, design, construction, sustainability and supply chain management.

E - OJEU procurement rules and regulations, financial resources and local market capacity.

This model conceptualises how the local authority can improve the delivery of SV outcomes from the perception of the client, the main contractor and supply chain members in the project. Participants provided their conceptualisation about how the local authority, main contractor and supply chain members can improve their engagement with the local community and population. The CPTM provided the ‘what’ and subsystems provided the ‘how’ to achieve the client’s long-term objectives. The model consists of eleven subsystems developed through the analysing the transcripts and HAS model questions (See Figure 39).

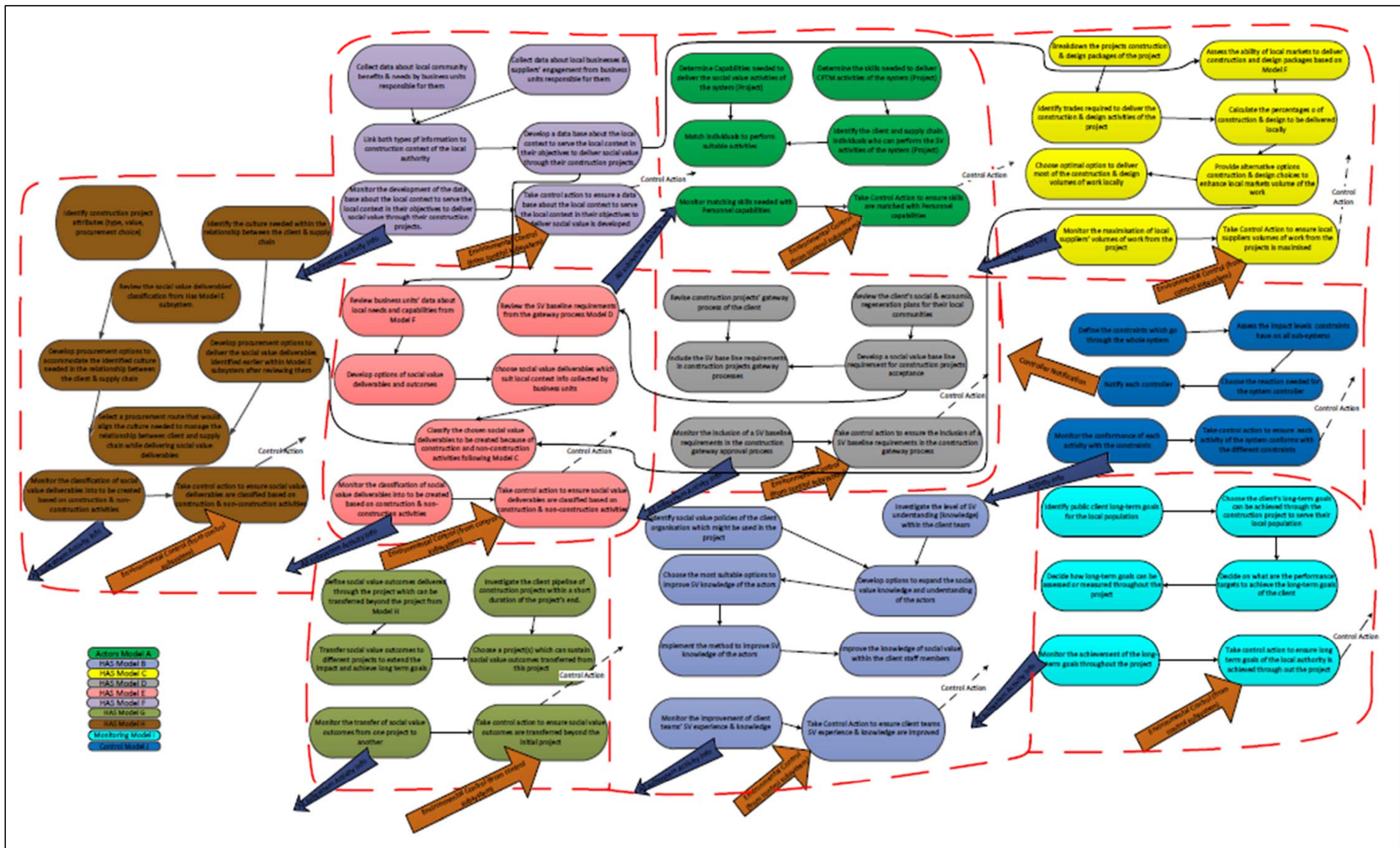


Figure 39 CTPM Model for Case Study One Improvement

6.2.5.1 HAS Model A (Defining Actor Subsystem Root Definition, CATWOE Analysis and Model)

A system owned by the regional local authority and operated by the local authority leader and the main contractor's project directors to name the actors needed to deliver the SV improvement (CPTM) systems activities through matching the capabilities (skills) of the personnel of the project team available and the requirements of the activities. This system serves the regional local authority that is delivering the activities of the wider system within the limitation of the available human resources (personnel skills and experience) (See Figure 40).

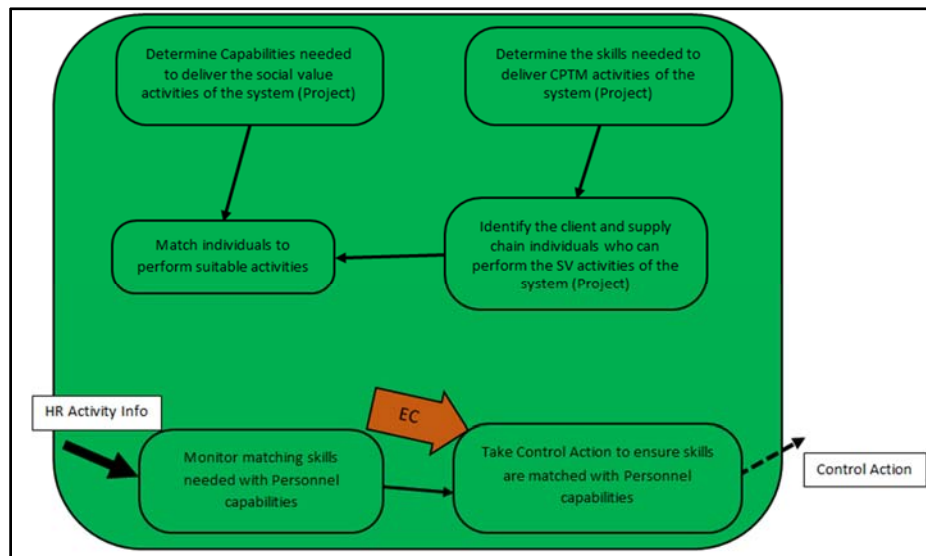


Figure 40 HAS Model A Activities (Case Study One)

This system covers the naming of actors from different CATWOE elements but from a wider system point of view. With each subsystem, an actor's model should exist; however, since the model is unified for the whole process a single model can name the actors for all subsystems and activities.

CATWOE Elements

T - To name the actors needed to deliver the SV improvement system's activities.

W - Matching the capabilities (skills) of the personnel of the project team available and the requirements of the activities the client organisation names the needed personnel.

C - The regional local authority.

O - The regional local authority.

A - Local authority and main contractor leaders.

E – The available human resources to perform the activities (skilled personnel).

6.2.5.2 HAS Model B, Root Definition, CATWOE Elements and Model

A system owned by the local authority and operated by independent construction sustainability experts (not linked to the client or the main contractors organisations) to improve the understanding of SV for local authority staff working on construction projects' procurement

and delivery as to how they can include different forms of SV in the project's objectives through creating continuous learning programmes for the staff involved in construction and SV delivery to improve their decision-making processes. This system serves the local authority staff members who are involved in construction projects and have the obligation to deliver SV through the projects which is achieved within the limitations of the available SV and construction experience within the organisation's human resources (See Figure 41).

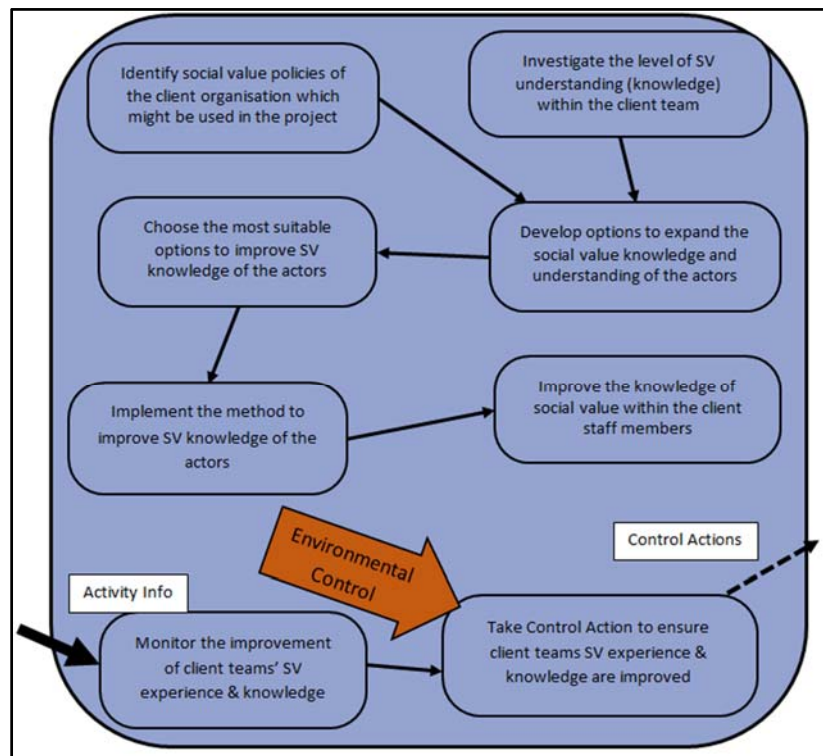


Figure 41 HAS Model B Activities (Case Study One)

CATWOE Elements

T - To improve the understanding of SV by local authority staff working on construction projects' procurement and delivery as to how they can include different forms of SV in the project's objectives.

W - Creating continuous learning programmes for the staff involved in construction and SV delivery to improve their decision-making processes.

C - The local authority staff members involved in construction projects and deliver SV outcomes.

O - The local authority.

A - Independent construction sustainability experts (not linked to the client or the main contractors' organisations).

E - Available human resources with sufficient experience in SV and construction within the client's organisational context.

6.2.5.3 HAS Model C Root Definition, CATWOE Elements and Model

A system owned by the client organisation leadership and operated by the main contractor's construction and design staff members including specialist suppliers to maximise the work won by local suppliers within a construction project through breaking down the project into generic

and specialised packages aligned with local suppliers' capabilities at an early stage, before procuring work packages, of the project. This system serves the local suppliers within the vicinity of the project and was meant to work within the limitations of the local market capabilities, and the time available for the project breakdown analysis, to achieve the long-term objective of the main contractor in meeting the local authority suppliers' engagement (See Figure 42).

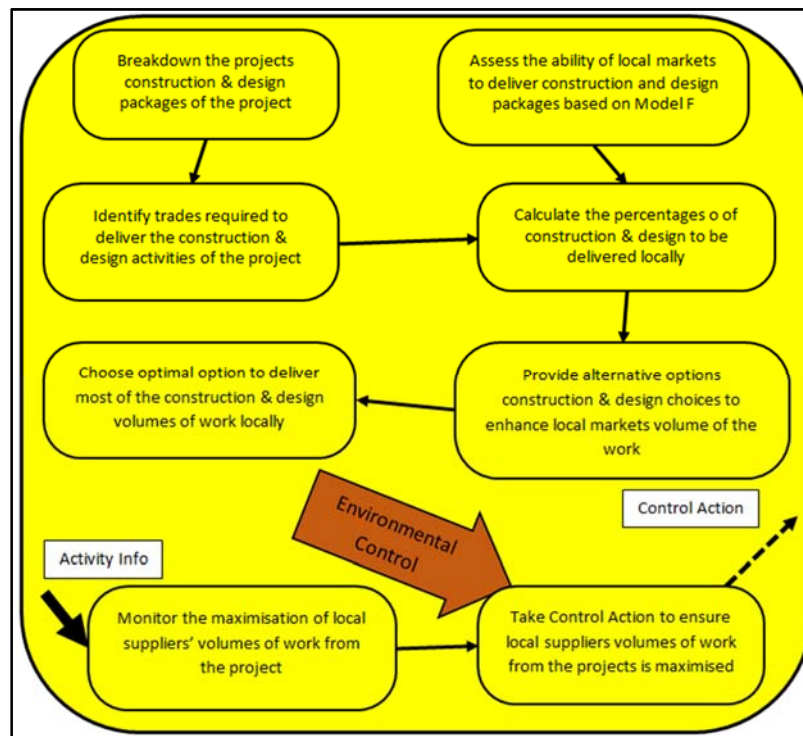


Figure 42 HAS Model C Activities (Case Study One)

CATWOE Elements

T - To maximise the work won by local suppliers from a construction project.

W - Breaking down work packages of the construction project to specialist and generic packages aligned with local suppliers' capabilities in the early stages before procuring the packages of the project offers the main contractor time to maximise the involvement of the local suppliers in the project.

C - The local suppliers within the vicinity of the project.

O - The client organisation leadership with the long-term objective of meeting the local suppliers' engagement.

A - The main contractor's construction and design staff members including specialist suppliers.

E - Limitations of the local market capabilities and the time available for the project breakdown analysis.

6.2.5.4 HAS Model D Root Definition, CATWOE Elements and Model

A system owned by the regional local authority organisation and operated by the local authority regeneration and development, skills and education, employment and training teams to embed SV in the project gateway process of construction projects through developing baseline SV requirements for construction projects using the local authority's strategic objectives for

construction projects. This system serves the local population by making sure that they have minimum levels of SV delivered through their construction projects. In addition, this system works within the limitations of local authority pipelines of construction projects (See Figure 43).

CATWOE Elements

T - To embed SV in the project gateway process of construction projects.

W - Developing baseline SV requirements for construction projects using the local authority's strategic objectives for construction projects

C - The local population

O - The regional local authority organisation

A - The local authority regeneration and development, skills and education, employment and training teams.

E – Limitations are the local authority's pipe line of construction projects.

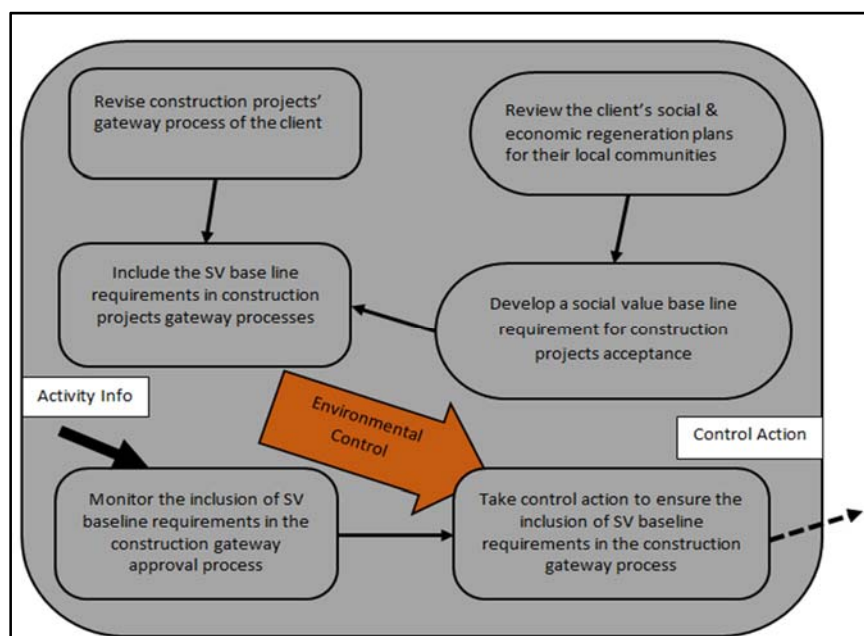


Figure 43 HAS Model D Activities (Case Study One)

6.2.5.5 HAS Model E Root Definition, CATWOE Elements and Model

A system owned by the local authority organisation and operated by the local authority's SV champions to choose suitable types of SV outcomes to be delivered as part of their construction projects through depicting outcomes based on their achievability through construction activities. This system serves the local population and community (suppliers and individuals) by ensuring that SV outcomes are clearly understood by the local authority construction projects. Finally, this system must work within the limitations of the level of experience the local authority staff have in SV delivery through construction projects (See figure 44).

CATWOE Elements

T - To choose suitable types of SV outcomes to be delivered as part of local authority's construction projects.

- W** - Depicting SV outcomes based on their achievability through construction activities
C - The local population and community (individuals and businesses).
O - The regional local authority organisation.
A - The local authority's SV champions.
E - Limitations are the level of SV delivery experience within the local authority organisation.

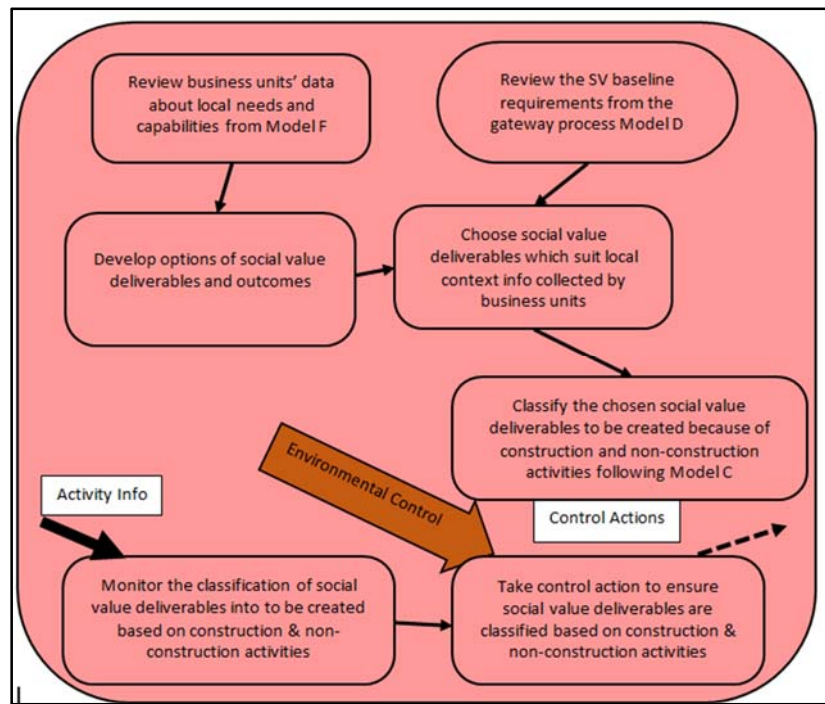


Figure 44: HAS Model E Activities

6.2.5.6 HAS Model F Root Definition, CATWOE Elements and Model

A system owned by the local authority organisation and operated by the local authority different business units covering skills and employment, regeneration and development, education and training to develop a full understanding of the local community in which the local authority works from a construction context through collecting data about the local market capabilities and the local social and economic needs. This system serves the local authority by building its knowledge of the local contexts as the long-term goal within the limitations of the financial and time resources available to collect the data and organise it (Figure 45).

CATWOE Elements

- T** - To develop a full understanding about the local community in which the local authority works from a construction context.
W – Collecting data about the local market capabilities and the local social and economic needs.
C - The local authority by building its knowledge on the local contexts as the long-term goal.
O – The local authority organisation.
A - The local authority different business units' skills and employment, regeneration and development, education and training.
E – Limitations are the financial and time resources available to collect the data and organise it.

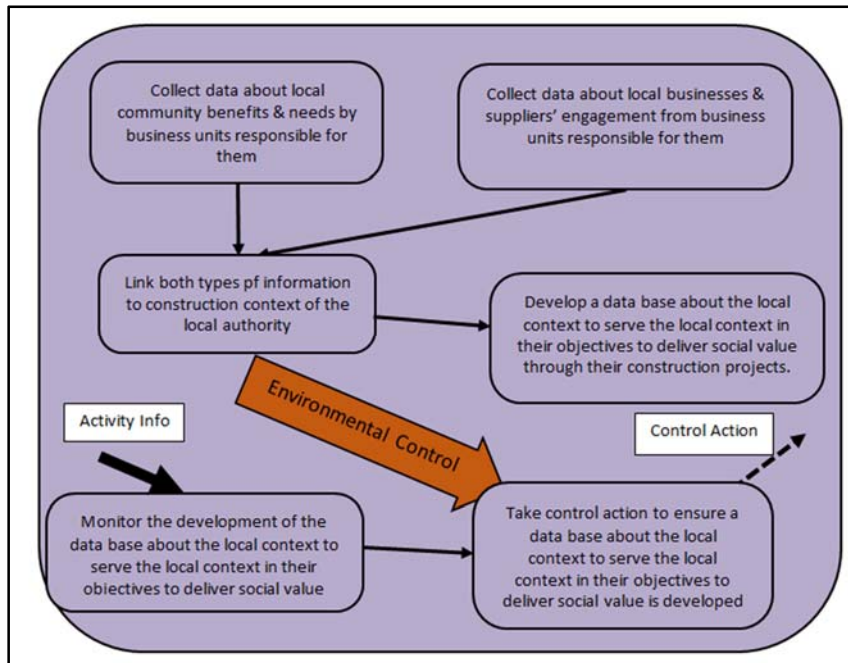


Figure 45 HAS Model F Activities (Case Study One)

6.2.5.7 HAS Model G Root Definition, CATWOE Elements and Model

A system owned by the regional local authority and operated by the procurement vehicle team and the local authority's capital investment programme team to extend the SV impact beyond a single construction project through moving the SV outcomes from the initial project to other projects available in the construction pipelines of the local authority or the procurement vehicle. This system serves the local population engaged in the project by extending the benefits they receive from the construction projects within the limitations of the available construction projects linkable to the completed project (Figure 46).

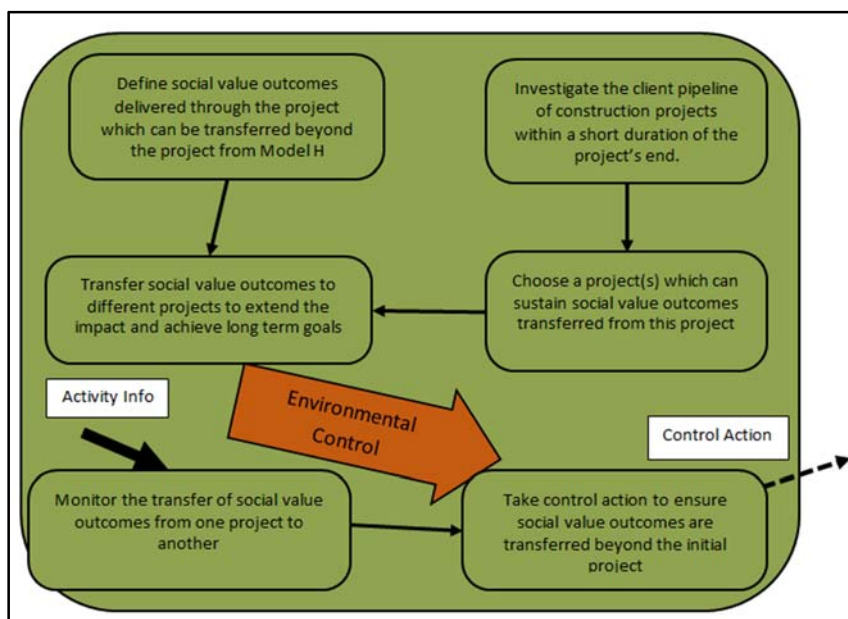


Figure 46 HAS Model G Activities (Case Study One)

CATWOE Elements

T - To extend SV impact beyond a single construction project.

W – Moving SV outcomes from the initial project to other projects in the available construction pipelines of the local authority or the procurement vehicle.

C - The local population engaged in the project by extending the benefits they receive from construction projects.

O – The regional local authority.

A - The procurement vehicle team and the local authority's capital investment programme.

E – Limitations are the available construction projects linkable to the completed project.

6.2.5.8 HAS Model H Root Definition, CATWOE Elements and Model

A system owned by the regional local authority and operated by the procurement team of the local authority to support SV requirements contractually and culturally between the client organisation and the supply chain through naming procurement routes that accommodate SV delivery. This system serves the regional local authority within the limitations of the EU procurement rules and regulations (See Figure 47).

CATWOE Elements

T - To support SV requirements contractually and culturally between the client organisation and the supply chain.

W – Naming procurement routes that accommodate SV delivery.

C - The regional local authority.

O – The regional local authority.

A - The procurement team of the local authority.

E – Limitations are the EU procurement rules and regulations.

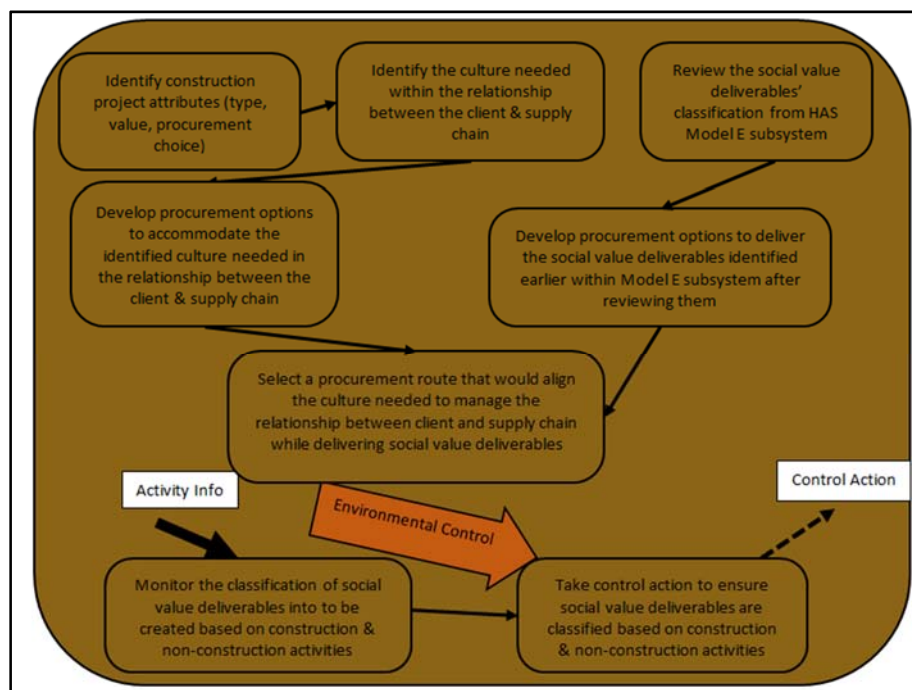


Figure 47 HAS Model H Activities (Case Study One)

6.2.5.9 HAS Model I (Monitoring subsystem) Root Definition, CATWOE Elements and Model

A system owned by the regional local authority and operated by the local authority management team to achieve the long-term goals of the construction client (owner of the system) through understanding strategic goals for their local (community) population and assessing how they can be measured against the construction project's SV performance. This system serves the local communities within the limitations of the local authority's capabilities (See Figure 48).

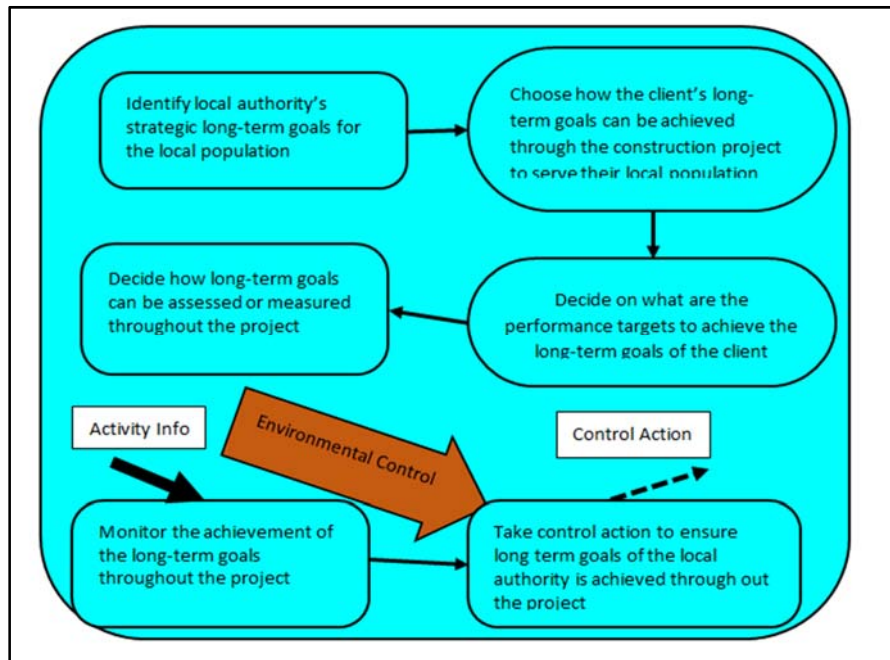


Figure 48 HAS Model I Activities (Case Study One)

CATWOE Elements

T – To achieve the long-term goals of the construction client (owner of the system).

W – Understanding strategic goals for the local (community) population and assess how they can be measured against the construction project's SV performance.

C - The local communities.

O – The regional local authority.

A - The local authority management team.

E- The limitation is the local authority's capabilities.

6.2.5.10 HAS Model J (Controlling subsystem) Root Definition, CATWOE Elements and Model

A system owned by the local authority and operated by the local authority to ensure that all activities of the CPTM model conform to the different constraints of the project perceived by the key stakeholders, which impact upon SV delivery (See Figure 49).

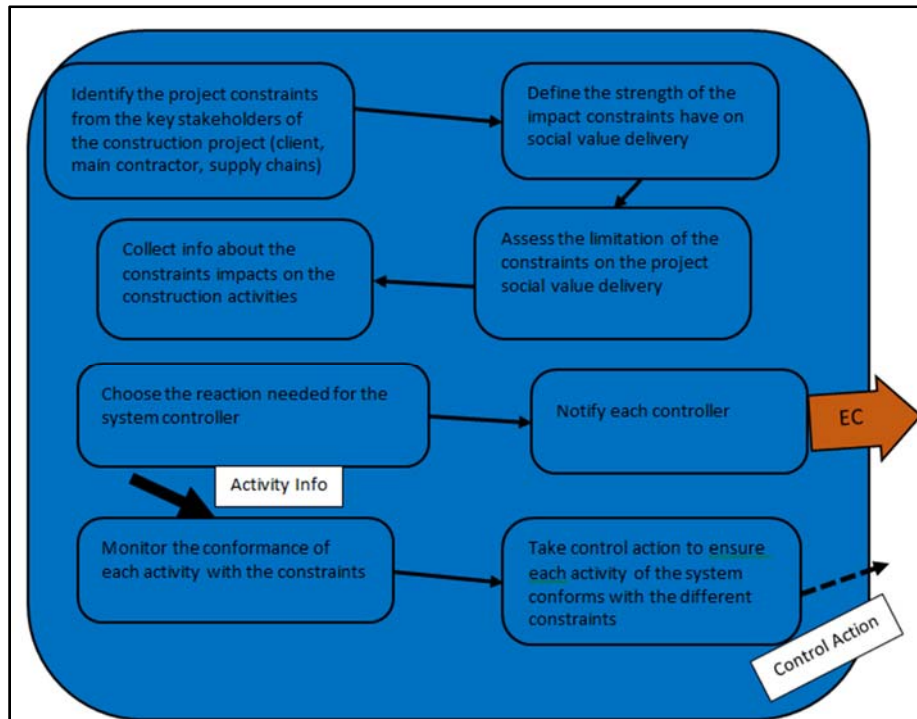


Figure 49 HAS Model J Activities (Case Study One)

CATWOE Elements

T – To achieve the long-term goals of the construction client (owner of the system).

W – Perceiving strategic goals for the local (community) population and assess how they can be measured against the construction project’s SV performance.

C - The regional local authority.

O – The regional local authority.

A - The local authority management team.

E - No limitations know.

6.2.6 SVAZ

The SVAZ was produced using the activities emerging from the HAS Models and organised based on the eleven stages of the GDCPP where the activities were classified according to their suitability and timeframe. In each of the HAS models in the previous section the activities of each model were classified based on their suitability to a project phase from the Generic Design and Construction Process Protocol (GDCPP) to form a Social Value Activity Zone (SVAZ) for the private developer projects. Figure 50 Shows the detailed activities plotted against each stage of the GDCPP stages.

Pre-Project Phase					Pre-Construction Phase					Construction Phase			Post Completion Phase
(Phase Zero) Demonstration of Need	(Phase One) Conception of Need	(Phase Two) Outline Feasibility	(Phase Three) Substantive Feasibility Study & Outline Financial Authority	Hard Gate 1	(Phase Four) Outline Conceptual Design	(Phase Five) Full Conceptual Design	Hard Gate 2	(Phase Six) Coordinated, Design & Procurement & Full financial Authority	Hard Gate 3	(Phase Seven) Production Information	(Phase Eight) Construction	Hard Gate 4	(Phase Nine) Operation & Maintenance
Investigate the level of SV understanding (knowledge) within the client team	Identify social value policies of the client organisation which might be used in the project									Investigate the client pipeline of construction projects within a short duration of the project's end.	Define social value outcomes delivered through the project which can be transferred beyond the project from Model II	Monitor and take control action to ensure social value outcomes are transferred beyond the initial project	Transfer social value outcomes to different projects to extend the impact and achieve long term goals
Develop options to expand the social value knowledge and understanding of the actors			Implement the method to improve SV knowledge of the actors				Take Control Action to ensure client teams SV experience & knowledge are improved				Choose a project(s) which can sustain social value outcomes transferred from this project		
Review the client's social & economic regeneration plans for their local communities		Choose the most suitable options to improve SV knowledge of the actors			Develop options of social value deliverables and outcomes	Classify the chosen social value deliverables to be created because of construction and non-construction activities following Model C	Monitor and take control action to ensure that the classification of social value deliverables into to be created based on construction & non-construction activities						
Develop a social value base line requirement for construction projects acceptance			Review business units' data about local needs and capabilities from Model F		Choose social value deliverables which suit local context info collected by business units	Make design & construction changes to maximise local suppliers' volumes of work							
Revise construction projects' gateway process of the client.	Include the social value base line requirements in construction projects gateway processes		Review the social value baseline requirements from the gateway process Model D	Monitor and take control action to ensure the inclusion of social value baseline requirements in the construction gateway approval process	Breakdown the projects construction & design packages of the project	Calculate the percentages o of construction & design to be delivered locally	Monitor and take control action to ensure the maximization of local suppliers' volumes of work from the project						
	Collect data about local community benefits & needs from business units responsible for them	Link both types pf information in construction context of the local authority	Develop a data base about the local context to serve the local context in their objectives to deliver social value through their construction projects.	Monitor and take control actions to ensure the development of the data base about the local context to serve the local context in their objectives to deliver social value	Identify trades required to deliver the construction & design activities of the project								
	Collect data about local businesses & suppliers' engagement from business units responsible for them				Assess the ability of local markets to deliver construction and design packages based on Model F	Provide alternative options construction & design choices to enhance local suppliers' volumes of the work		Develop procurement options to deliver the social value deliverables identified earlier within Model E after reviewing them					
						Identify construction project attributes (type, value, procurement choice)			Monitor and Take control action to ensure social value deliverables are classified based on construction & non-construction activities				
						Review the social value deliverables' classification from Model E		Select a procurement route that would align the culture needed to manage the relationship between client and supply chain while delivering social value deliverables					
Determine Capabilities needed to deliver the social value activities of the system (Project)					Determine Capabilities needed to deliver the social value activities of the system (Project)			Determine Capabilities needed to deliver the social value activities of the system (Project)		Determine Capabilities needed to deliver the social value activities of the system (Project)			
Determine the skills needed to deliver CPTM activities of the system (Project)				Monitor and take control action to ensure matching skills needed with Personnel capabilities	Determine the skills needed to deliver CPTM activities of the system (Project)			Monitor and take control action to ensure matching skills needed with Personnel capabilities	Determine the skills needed to deliver CPTM activities of the system (Project)		Determine the skills needed to deliver CPTM activities of the system (Project)		Monitor and take control action to ensure matching skills needed with Personnel capabilities
Match individuals to perform suitable activities					Match individuals to perform suitable activities			Match individuals to perform suitable activities		Match individuals to perform suitable activities			
Define the limitations (Constraints) which go through the whole system				Monitor and take control actions to ensure the conformance of each activity with the constraints	Define the limitations (Constraints) which go through the whole system			Monitor and take control actions to ensure the conformance of each activity with the constraints	Define the limitations (Constraints) which go through the whole system			Monitor and take control actions to ensure the conformance of each activity with the constraints	
Assess the impact levels constraints have on all sub-systems					Assess the impact levels constraints have on all sub-systems				Assess the impact levels constraints have on all sub-systems				
Choose the reaction needed for each controller					Choose the reaction needed for each controller				Choose the reaction needed for each controller				
Notify each controller					Notify each controller				Notify each Controller				
Identify local authority's strategic long-term goals for the local population		Choose the client's long-term goals can be achieved through the construction project to serve their local population											
			Decide how long-term goals can be assessed or measured throughout the project	Monitor and take control actions to ensure the achievement of the long-term goals throughout the project			Monitor and take control actions to ensure the achievement of the long-term goals throughout the project		Monitor and take control actions to ensure the achievement of the long-term goals throughout the project			Monitor and take control actions to ensure the achievement of the long-term goals throughout the project	
			Decide on what are the performance targets to achieve the long-term goals of the client										

Figure 50 Case Study One SVAZ

The SVAZ shows what the interviewees suggested as the improvements to the construction project delivery of SV. What were noted as problems of delivery were further design and construction characteristics investigations, which were achieved within the tasks of the SV activities. In addition, further investigation of the local context was needed which the tasks are designed to improve and the problem of transferring or linking SV outcomes through multiple projects was understood and improved through the model. Accordingly, most of the tasks are designed to be carried out before the procurement starts which was what the interviewees depicted as the time when the improvement should be done.

6.2.7 Conclusions of Case Study One

Considering the first case study which were discussed through the thematic analysis, the rich picture building, the HAS Modelling (GDCPP) and the SVAZ the below is the conclusion of Case one perceptions:

1. Client organisations were the most influential stakeholder in Value creation whereby the key stakeholders from different positions within the supply chain recognised the client's role in supporting SV creation. Client organisation methods and quality of communicating with their supply chains was critical affecting SV creation success from a client's perspective. Additionally, the client's experience with construction projects and the type of their business influenced the procurement route they chose for the type of SV they required. Finally, the client with the organisational champion for SV creation had control over, and understanding of, the SV creation.
2. Client organisations, main contractors and tier 2 suppliers downstream in the supply chain influenced SV creation more than any other party, as the clients set the objectives and monitor the delivery and main contractors with their tier 2 suppliers to carry out the activities of SV creation with influence on the decision-making being at a minimum for the tier 2 suppliers. Tier 3 suppliers delivered value creating outcomes, but they did it (because of their lack of resources) by getting hired by an employer from the supply chain. Tier 3 suppliers provided an economic multiplier in their local areas where they are active which is what meant by SV creation.
3. Selecting SV outcomes was the most challenging activity for the client organisation. This was due to several factors, such as the lowest cost culture which refuted any outcomes which were not clearly displayed fiscally. Moreover, there was the political influence of councillors on the client wherein they created demands for certain types of outcomes with an economic nature (such as jobs and apprenticeships). Secondly, the existence of techniques to assist in SV creation varied based on the organisation's maturity level whereby the client had limited knowledge of processes and techniques because, as an organisation, they do not directly create SV whereas the main contractor had recognised approaches to help them include SV in the projects they deliver. However, their approaches were internally recognised and did not fully mature until the project was complete. Finally, with reference to the tier 2 suppliers, they did not have any recognised processes in place and they tended to follow what the main contractor offered them as support mechanisms.

4. The factors affecting the SV that emerged through the investment had similar patterns to those depicted earlier on the external and internal level. New attributes emerged on the external level in the form of the local and national economic context, not the local context, which impacted upon the level of urgency as to how the local authority create SV and the types of outcomes. On the other hand, new attributes emerged on the internal level which were the responses of the main contractor and how they guided the suppliers in the process and reacted to the client's SV requirements and managed their expectations. In addition, the response methods of the supply chain members as to how the main contractor promoted SV was among the attributes which affected the SV delivery success, wherein it was recognised that SV cannot be created to a satisfactory level without downstream suppliers taking part in the delivery. Finally, the time of engagement available for the main contractor and the supply chain to investigate the local context, the market capabilities and the design options emerged as an internal factor with the project's SV creation.
5. SSM proved successful in investigating SV whereby the rich picture was used to illustrate the reality of its delivery in the project case and the HAS models were used to provide solutions as to how SV creation should be improved. GDCPP usage enabled a detailed plan for the creation of SV to be developed.
6. The SV outcomes have an economic nature because of the client being a local authority and having to justify their investment decisions, whereby the justification occurred through quantifiable outcomes such as apprenticeship hours and local spend and employment depending employment from areas within certain local postcodes. Pressure and scrutiny on local authorities forces them to target such outcomes and to easily measure them for public accountability.
7. Finally, the GDCPP proved that much of the effort to create SV takes place in the early stages of construction projects whereas the construction and operational stages cannot offer much influence or room for improving SV outcomes.

In conclusion, this case was selected because the client was a public experienced organisation, the project design characteristic was being English Heritage which had specific engineering requirements that could have hindered what the client aimed at achieving. The procurement route being a construction framework which was not as popular when the project was procured, the project costing exceeding the 100-million-pound mark which put further pressure on the client organisation to create socioeconomic outcomes. Finally, the project type being a single one-off project and not being linked to another construction project. The client organisation understood the pressure amounting on them because of the economic circumstances at the time of procuring and were able to justify their decision about how the project funding was utilised. As a result, they engaged with their main contractor collaboratively which is what the regional framework offered where SV requirements were communicated to the supply chain through what the mini competition offered. In addition, the main contractors understood the local context in terms of available local suppliers and how they could enhance local market engagement through educating subcontractors about Heritage projects and get them certified a decision which improved and soft outcomes. The main contractor recognised the intentions and rigour of the client organisation towards creating SV and responded suitably by assigning an

experienced individual who was able to negotiate and manage SV requirements with the key stakeholders. This individual planned, implemented, managed and tracked the progress suppliers and the internal main contractor team made with achieving the requirements. Finally, the suppliers were able to adopt the same views as the client and the main contractors and were supported by both entities to deliver outcomes and create value. large, regional and small, local subcontractor's business models were understood by the main contractors and were dealt contextually where the main contractor's approach changed based on the type of supplier.

Despite, the satisfaction indicated throughout the project with how SV was approached in this case situation, several problematic challenges were implied. The project being a one-off did not transfer the soft outcomes delivered to other projects which indicated that these outcomes were stopped abruptly. Also, the main contractor indicated that several solutions and options they offered to the client, which might have increased the cost but would have increased the outcomes, were rejected because of the persistence of lowest cost culture within the client organisation. In addition, the engagement timing was perceived as late by the client and main contractors than what could have been earlier engagement which reduced the ability of both parties to influence the outcomes. Finally, the SV requirements or outcomes were not clear enough from the start of the project from the client to the supply chains where interpreting these requirements into deliverables was challenging because they lacked clarity. Accordingly, the SVAZ models were used to create activities that would encourage the actors to reconsider how they thought about such challenges and recognise that the situation could improve. The findings of this case will be further discussed and linked back to the literature in chapter seven discussion section.

6.3 Case Study Two

6.3.1 Case Study Description

In this case, the projects were chosen because they were part of a school construction programme, procured and constructed by a regional local authority in the Northwest of England, where the programme was funded internally by the authority through a diverse range of methods. This case has a single construction project as the unit of analysis with data collected on different school projects independently (unit of analysis) where the researcher opted to collect data about to build a collective picture around how a single project within the programme created what the client defined as SV; and how the client, the main contractors and the suppliers functioned independently and collectively to plan and implement what the client conceptualisation as SV. To build this understanding, the researcher approached three schools with similar fiscal values within the same areas which had overlap between different sub-contractors where a single supplier worked on multiple projects. The client organisation procured the schools collectively to use their bargaining power over the three main contractors with the number exceeding 20 schools being procured through the programme and a budget that compounded to more than 150£ Million. The procurement of the program started in 2012 and is expected to end in 2018 with the creation of SV being at the core of the aggregation of demand decision. It was viewed early on by the client organisation that the delivery of local community benefits and creating value with a socioeconomic nature could be achieved through the aggregation of demand, using their ability to influence the supply chains and provide leadership to them in SV creation.

Furthermore, the client organisation chose to procure through two construction frameworks with the first being a regional construction framework with multiple main contractors as partners competitively bidding to win work and another national construction framework with one main contractor as a single supplier and gets direct allocation for construction projects. The client organisation involved their skills and employment business units early in the planning of SV creation through assisting the main contractors and the suppliers with information of the local needs and capabilities. Three main contractors delivered the studied projects to the client with two contractors being members of the regional competitive framework and the third being the direct allocation of the national framework. Four sub-contractors who worked with the three main contractors in trades such as the Mechanical and Electric (M&E) (2 contractors), timber frames and a scaffolding supplier were approached by the researcher to build an understanding of how a single construction project worked within the program.

The first project had the value of 16£ million, which was procured through the national framework with direct allocation to the main contractor (main contractor 2) and had 190 successful apprenticeship weeks, 73% of the budget spent locally and 66% of local labour within the direct vicinity of the project location. The square foot rate of the project (1450£) was less than the square foot of previous projects in the same areas (1950£) when delivered due to savings done by the main contractor through the design aspects of the school. Collaboration of the main contractor with the supplier were downstream the supply chain with tier 2 and tier 3 being involved in the collaboration process.

The second project was a high school within the same area and a value of 15£ million procured through the regional framework via a competitive process between several main contractors won by main contractor 1. The school was delivered with a cost to the square foot being 1630£ and 60% of labour from the direct vicinity of the area around the school with 28 apprenticeships trained on the project and six placements created through the client employment business unit. In this project the main contractor changed some of the main design features to suit the local market and increase the local spend because the local market did not have certain types of structural suppliers which encouraged the main contractor to change the design to accommodate that. The third project which was looked at by the researcher was another high school valued around 19£ million, delivered by main contractor 3 and procured through the regional framework with the main contractor winning the competitive bid with 85% bought locally from the region and 20 apprenticeships from the local area. All these projects helped the researcher develop a picture on a single project (the unit of analysis) to be developed when the client was procuring a program with an aggregation of demand approach.

6.3.2 Interviewee Profiles

Key stakeholders were named for each school project to understand their influence in SV delivery where the researcher approached an individual from each organisation for an interview and all interviews covered all three projects. The organisations known as key stakeholders were the local authority as the client organisation, its business units which influenced the decision making, both procurement vehicles used by the client to deliver their projects, the main contractors because they played the role of the enabler to the client's vision to create SV outcomes, and finally, different types of suppliers who took part in the creation of SV under the guidance of the main contractors. The individuals chosen to represent each organisation had a significant role to play in the delivery of the construction project in general, and value adding outcomes. Table 12 shows the profile of each interviewee and their responsibilities in their organisations and the project.

Organisation	Project Role	Profile and Responsibilities	Abbreviation
Client 1 (Local Authority)	Program manager for the local authority	Responsible for the delivery of the investment program with assistance of three project managers that work for on the client side to deliver most of the work under design and build relationships with contractors with the help of an external QS that looks at cost plans and does the valuations. The project managers went around once a week in the sites and met with the contractor to make sure SV was being delivered as planned.	LG
Client 2 (Skills & Employment business unit)	Manager of business unit which is part of the client's organisation	Secured opportunities for residents in training or employment as part of the schools' improvement program. The business unit joined after all the tenders and their role was to support the main contractors with supply chain issues, around all the employment skills KPI's that were being set as part of the contract and help them achieve those KPIs.	IL
Procurement Vehicle 1 (Regional Construction Framework)	Added value Manager for the regional framework	Added value manager looking on how to engage with main contractors and clients to deliver SV through construction projects with an overarching responsibility over the schools' program.	RAC
Procurement Vehicle 2 (National Framework)	Regional Framework Lead	Lead the Regional Frameworks owned and managed by national framework for construction, design and commercial services which were responsible for some of the projects within the schools' program.	ZB

Main Contractor 1	Regional Framework Director for main contractor 1	Regional Framework Director for main contractor 1 in the North-West Region, with 25 years of experience in the educational sector and 15 years in construction framework and SV management. Had previous knowledge and experience with the same client organisation in multiple high and medium value projects which focused on SV as a product of these projects. Responsible for 2 projects from the schools' program and their framework and procurement compliance.	EO
Main Contractor 2	Operational Director for main contractor 2 in the North-West	Main contractor's operations director responsible for the delivery of multiple schools for the schools' program which includes all aspects of the delivery such as the procurement, design, hiring suppliers and handing over with SV among the core objectives of these projects.	LK
Main Contractor 3	Senior Buyer for main contractor 3	Senior buyer for main contractor 3 with 18 years of experience, in procurement, the subcontract procurement in the schools' program. He is also works with the regional framework in the supply chain group where he responsible for making sure we deliver local spend and apprenticeships commitments through the supply chain.	MB
Sub-contractor 1 (M&E)	Commercial Director for the M&E Supplier	Day to day commercial management as director preparing bids for the schools' program and getting them agreed. Win work with the main contractors on different schemes. Worked on two school projects from the program with main contractors 2 and 3. The supplier is local to the authority and one of the biggest M&E suppliers in the region. One of the projects was a 14 million build out package was 4 million for M&E package.	HL
Sub-Contractor 2 (M&E)	Operations Director of M&E Supplier	Operations director for M&E Supplier involved in a few of schools with main contractor 3 construction with the role of operations director carrying out the mechanical, electrical and plumbing to the schools varied contract values with the overall responsibility for the delivery of SV outcomes.	FR
Sub-Contractor 2 (M&E)	HR Director for the M&E Group	Human Resources director with more than 25 years of experience with the supplier and responsible of the apprenticeship program of the organisation. Experience in setting apprenticeship programs with multiple clients nationwide.	
Sub-contractor 3 (Timber frameworks)	Contracts Manager of a timber frame supplier	Contracts manager of the Timber frames supplier working with main contractor 2 on 2 school projects and responsible for contract requirements which includes KPI management and SV requirements compliance. Five years of experience with the medium size organisation and delivered SV outcomes with other contractors in the region. Local to the region with extensive knowledge of the local supply market capabilities.	FE
Sub-Contractor 4 (Scaffolding supplier)	Managing Director for the organisation	The managing director of a scaffolding sub-contractor working with main contractor 3 with the early involvement in delivering SV outcomes through their apprenticeship and local buying engagement.	JK

Table 12 Case Study Three Interviewee profiles

6.3.3 Intra-Case Analysis

The interview transcripts were analysed using pattern matching where thematic analysis was based on the existing themes, in addition to new themes which emerged from the transcripts. Several subthemes emerged for each main theme which provided further explanation for these main themes. Figure 51 shows the main themes which emerged through the analysis as follows:

1. Client leadership in SV
2. Factors affecting SV delivery from a project management point of view
3. SV Characteristics.

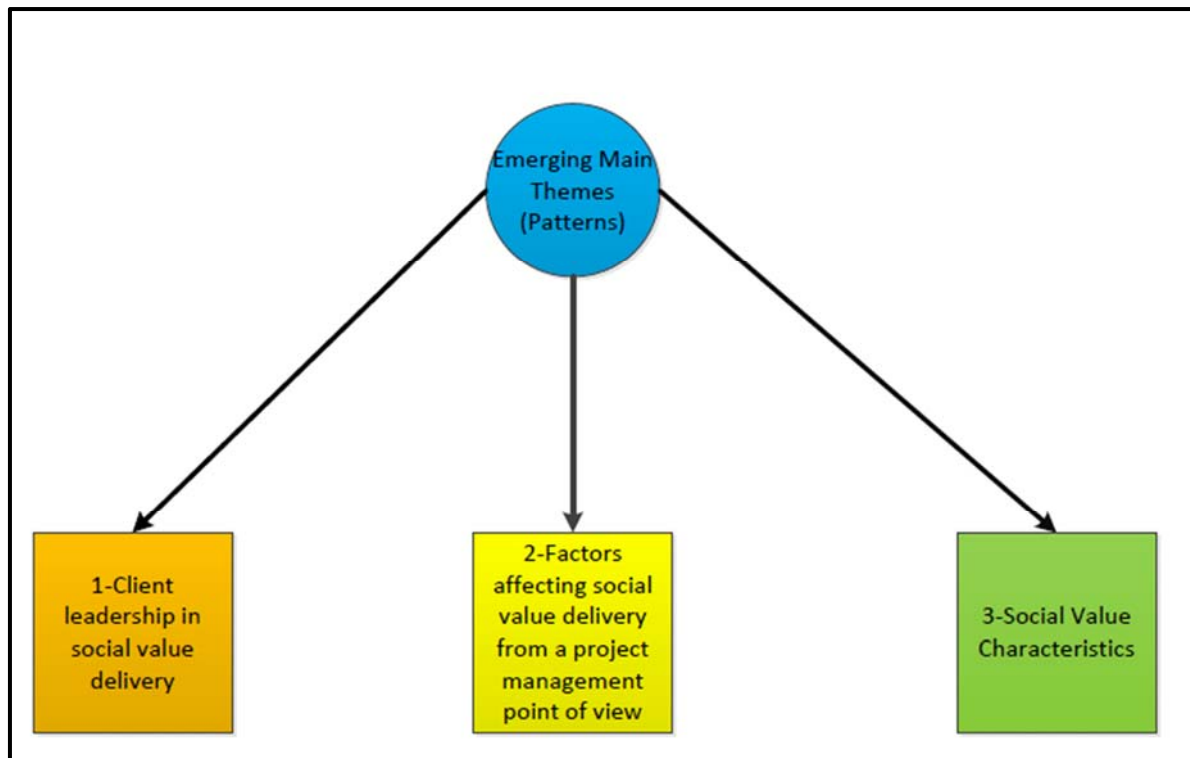


Figure 51 Main Themes Emerging from the Thematic Analysis of the Collected Data (Case Study Two)

6.3.3.1 *Client leadership in SV*

To create what they saw as SV the client organisation used their bargaining power, their influence over suppliers and their experience with procuring construction projects to adapt their approaches and pursue their objectives. The interviewees thought the client's involvement in the projects could not be replaced by any other stakeholders because of the leverage the client had over the three main contractors, tier 2 suppliers and local contexts. The client organisation level of experience impacted how they instilled SV outcomes, its quality and volume. The way of which the client organisation utilised different tools such as procurement strategies, its business units and local knowledge towards creating SV differentiated between satisfying and unsatisfying results for the client. The client awareness of the market circumstances, aggregation of demand decision, the communication methods, and how they organised the funding structure for the program were factors affecting how the client created their perspective of SV. Also, the client selected the procurement strategy and supported their contractual choices to enhance their control of the situation based on their capabilities and limitations to create SV suitable to their vision. Figure 52 shows the client organisation subthemes which emerged through the thematic analysis as follows:

1. Client Awareness
2. Client Type
3. SV Champion
4. Evolution of SV Delivery.

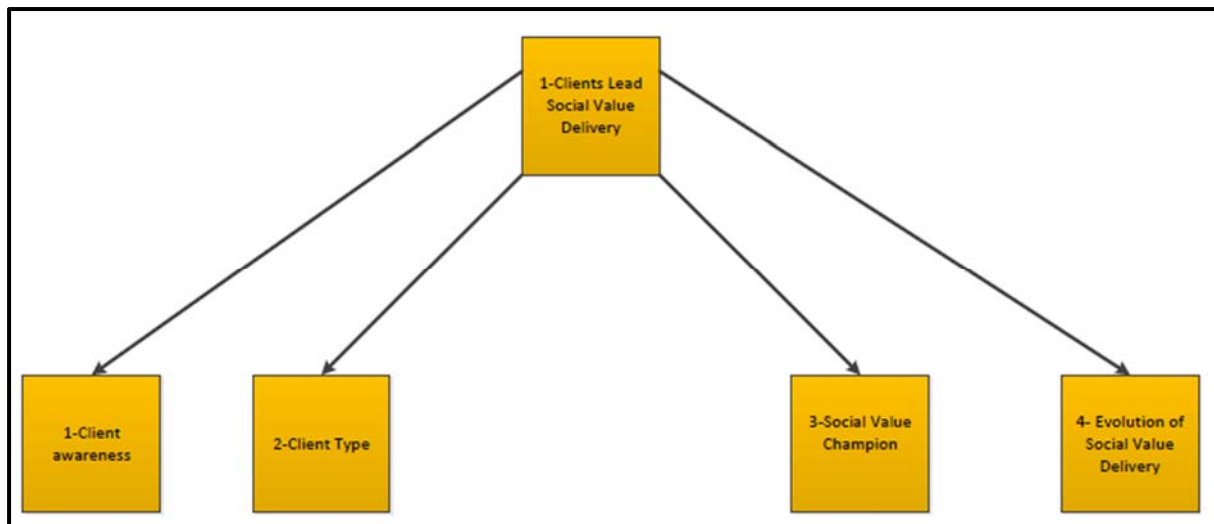


Figure 52 Client Organisation Subthemes (Case Study Two)

6.3.3.1.1 *Client Awareness*

The communication methods and quality of the client organisation reflected the level of awareness and experience they had on how they can create SV. The detailed information collected by different business units of the client influenced the communication between the client and the three main contractors where this information shaped the responses of the main contractors towards SV creation. Another form of communication which the client used to instil their vision of SV creation was the contractual demands of the client to the main contractors where these demands were transferred downstream the supply chain when the client communicated with these suppliers to ensure their views of SV aspirations were met. The suppliers responded to the client's requirements to win more work which was the motive for the main contractors to engage with the client on the value creation objectives. The client aimed at creating value adding outcomes to their immediate local community from the programme's beginning by ensuring that value creation was among the core objectives of the programme.

The client organisation's communication with the main contractors was done before procurement which was essential for the development of the programme's requirements and how the client and the contractors planned the delivery of their objectives. The client promoted their version of SV creation to their main contractors across all their construction projects which developed a culture of creating SV as a core objective. As a result, their communication about SV was about the whole program and not independent projects where the client approached contractors in the regions on a collective fashion and make sure they provided a conceptualisation about what SV creation meant to them every time they procured. Procuring through construction frameworks enabled the client to interpret their SV creation vision to requirements through bespoke questions. The responses to these questions displayed the awareness of the three main contractors of local context and created a dialog between the client and the main contractors to investigate local context and select suitable choices for the local community benefits.

The client set the targets, such as apprenticeships and local purchase, for the programme through projecting numbers for the main contractors to achieve and create SV. The client stretched the programme in terms of the created SV and the three main contractors responded

accordingly to satisfy the client in hopes of winning more work. Secondly, the client's experience with construction procurement influenced their decision to aggregate demand based on their belief that this procurement route would offer them tools to create value through the bargaining power they assumed over the main contractors. The tendering process offered flexibility to the client to add requirements which would have been difficult if the procurement route was a traditional single project procurement.

The client decided to procure a program based on previous experience which did not achieve their views of value creation which took into consideration when procuring the school's programme. The client organisation viewed bundled procurement of projects as an enabler to increase value creating outcomes with local socioeconomic nature because the client organisation experienced previous program procured, by other construction clients private and public, within the same locality and resulted in poor SV outcomes. Similar programmes were procured through similar procurement route and created value aligned to what the clients understood to be SV.

The client organisation created what they saw as SV through previous projects and programmes and changed their approach and behaviour towards procurement according to the leverage they needed to pursue their objectives. When the circumstances changed the client adapted their approach accordingly so in this programme the client interviewee thought that a single project structure reduced the client's control over the project because of the linear subcontracting structure which increased each tier's the overhead and reduced the client's ability to negotiate the creation of SV because of high number suppliers downstream the supply chain.

The Client changed their approach to create SV through procuring a programme of work because they recognised what opportunities this programme had, along with the risks procuring collectively and chose a suitable batch of work which suited their objectives and capabilities. The client recognised that collaboration and partnership would occur when they procure a bundle of project through aggregating demand where construction framework agreements were suitable routes to deliver this bundle of projects.

Finally, the funding sources and how the client organisation structured it reflected how much the client had experience and diverse knowledge from previous programs of developing funding for their programs. The previous programme funded outside the control of the client and had restraints on what outcomes were created locally which encouraged the client to develop their own funding and have control over it. The client had staff members to investigate methods of delivering funding and have control over it to leverage to the contractors in creating SV. There were various methods of funding and grants which the client team agreed on with different parties to fund the programme and ensure that they have control over it.

6.3.3.1.2 Client Type

The organisation type influenced its capabilities and the approach towards creating SV decisions. The client's available business units and the nature of information they possessed influenced the client's decisions. With the client being a local authority, publicly funded and working within the confinement of a local area their approach towards what SV creation meant. The local authority developed their plans of economic regeneration around the construction

programme because as a local authority they had the responsibility towards improving the education services through building schools and benefitting their local communities through their procurement decisions. Therefore, being a local authority influenced SV creation to become local community benefits through local expenditure, employment and training which were among the strategic improvement objectives being delivered by the client towards the local authority. Furthermore, being a local authority, the client organisation had business units which were utilised to provide guidance and work with supply chains to plan SV creation. Main contractors did not have the full understanding of how to deliver what the client planned such as apprentices and local purchasing which lead to the important role the different business units played. These business units had the knowledge to assist the main contractors in understanding the reality of the local context which would not have been possible if it was not for these business units.

Business units of the local authority had access to different types of suppliers, as part of their role when developing plans and strategies, where they obtained information about diverse range of suppliers' needs and what was suitable for them to thrive commercially and take part in SV creation. The business units assisted in SV creation as part of the local authority where a different type of organisation would not have the same access to suppliers nor the information that would help in creating SV outcomes. Local labour figures, skills shortages, suppliers' strength and weaknesses were among the information the client organisation and the business units had as part of their everyday jobs. The timing of the intervention of the client with the programme development was important in the development of SV outcomes. Interventions by business units helped the client to hold dialogues with different contractors despite the legal duration of OJEU regulations. As soon as it was possible the client organisation had their business units approach different contractors to have a continuous dialogue about SV outcomes. Business units' early intervention assisted the client in including targets for the outcomes being planned and include them in the procurement process which set the targets for the program.

Moreover, the business units managed SV outcomes throughout the programme by moving apprentices and local work force across different projects procured between the three main contractors within the same locality. The skills and employment business units had previous experiences in promoting local suppliers' engagement through performing meet the buyers' events which require collaboration between them and the main contractors. These events offered an opportunity to local authorities to communicate their message about SV creation to their main contractors and suppliers as well. The client, through the knowledge within business units, captured and understood how local suppliers function and how to improve their opportunities of winning more work. The experience of the business units in how to manage the meet the buyers' events offered the client more exposure to the local suppliers and provided guidance to how they can win work and benefits from the program. The business unit engagement provided a different outcome, for the client organisation, from what was usually produced.

6.3.3.1.3 *SV Champion*

The organisational champion was the leader of the local authority who led the delivery of the schools' projects and supported the organisation in doing so. The champion's background and values influenced the client's requirements rigour where pledges he/she made to the local community supported the organisation's position against public scrutiny and accountability when promoting the creation of SV after the election. The champion was influential to the delivery of the objectives which were not usually pursued because of his/her political power, which enables him/her to influence the decision-making process.

The client organisation could have delivered minimum value creating outcomes for their procured projects; however, the organisational champion constant scrutiny over the SV creation progress on a program level trickled down the procurement and management team and then the supply chains to deliver it. The sense of importance which the champion created was passed to the rest of the organisation which was important to SV profile. The champion set the strategic targets and provided the liberty of delivery methods to the team to understand the importance of SV and creating it.

Personal values and reporting requirements imposed by the champion ensured that the strategic objectives were delivered throughout the duration of the project. Being passionate about SV and having the political power to influence its creation differentiated the champion from the rest of the delivery team. The existence of the champion from the project stakeholder organisations was important to SV creation because of the influence the client organisation had based on their buying power leverage. The champion influence was detected by main contractors and the sense of urgency reflected by him gave them, (main contractors), an understanding of how important SV creation was for him and eventually the rest of the organisation. The main contractors knew that the money was raised based on a plan initiated by the champion which included investment in the local community. Even downstream the supply chain who rarely interacts with the client organisation let alone the head of the client organisation felt the influence of the champion through their dealings with the client and main contractors' organisations.

6.3.3.1.4 *Evolution of SV Delivery*

SV creation changed through different projects/programs within the client organisation, where the suitability of outcomes from previous projects was influential in the client organisation's changed SV creation approach. The client dealt with previous projects which they did not have control over in the past resulting in their inability to generate local benefits due to the central funding scheme. Hence, they carried such lessons forward and understood the advantages and disadvantages these projects offered them. Collaboration between the client organisation and different contractor started a long time before the schools' projects which changed how the main contractors understood the client requirements especially when aiming at creating SV. The ongoing relation between the client and the main contractors enhanced the ability of the client to influence the contractors. Progress in procurement methods SV creation where the client took their requirements, beyond being tick box exercises, to achieve value adding outcomes through collaboration and commitment from suppliers. Even construction frameworks have a learning curve from one project to another and one program to another.

Procuring construction frameworks yielded different experiences from dealing with different clients and contractors. The contractors aimed at improving their experiences through construction frameworks as it was becoming a guaranteed source of work.

The previous experiences of the three main contractors were unsuitable for their projects which encouraged them to adopt a method to their projects. The main contractors analysed how previous projects were procured on a single basis, delivered SV based on a hit a miss performance, and took it forward when they had opportunity through a mature experienced client and a consistent program of work. Bundles of projects being procured since the introduction of construction forward assisted the client and the contractors in having a consistent approach to create SV.

6.3.3.2 Factors Affecting SV Delivery from a Project Management Point of View

Multiple factors affected the performance of the project and the achievement of its objectives towards SV creation and it was perceived. Accordingly, these factors were perceived in light of the case study and discussed below. Figure 53 shows the subthemes of the factors affecting the notion of SV creation from a project management point of view which emerged through the thematic analysis as follows:

1. Pipeline (Program Aggregation of Demand)
2. Strategic Procurement Route
3. Design and Construction Characteristics
4. Local Context
5. Main Contractors' Responses
6. Supply Chain Members' Responses
7. Time of Engagement.

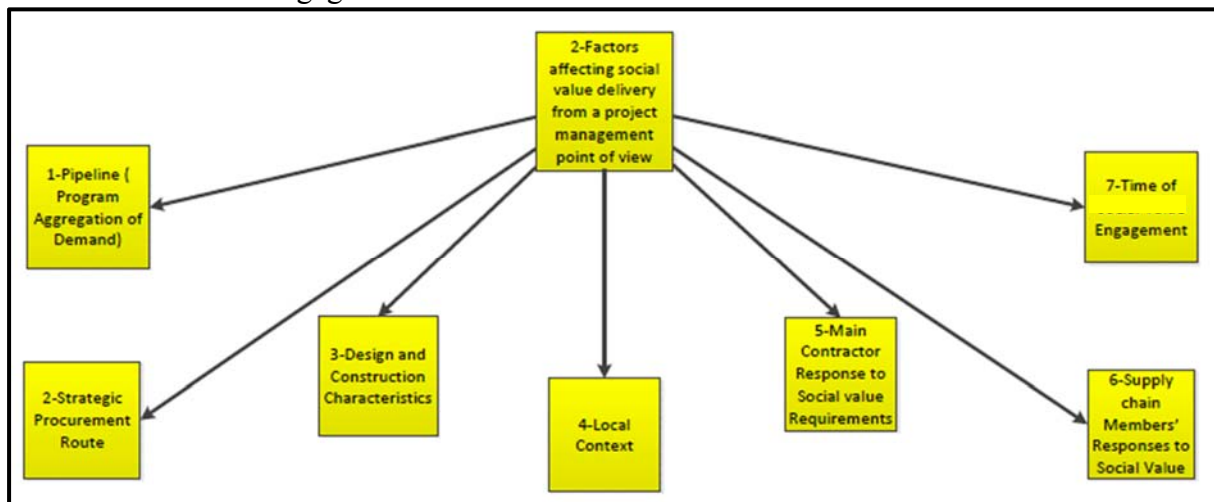


Figure 53 Factors Affecting SV Delivery from a Project Management Point of View (Case Study Two)

6.3.3.2.1 Pipeline (Program Aggregation of Demand)

Benefits of a program of work: Developing a programme of work was a decision made by the client organisation in which a bundle of projects were procured together for the client to gain the leverage they needed to influence their supply chains and pursue their objectives. The client decided to aggregate demand which influenced how they thought of SV outcomes, their

quantity and quality. Bundling projects offered bargaining power over the collective summation of the programme and the extension of outcomes across different projects such as moving apprentices and suppliers from one project to another. The three main contractors acknowledged the role the programme duration played in increasing the volume of work they would win which helped them to complete apprenticeships programs, enhanced local purchase and improved local employment figures. The programme 6-year duration helped the main contractors to complete apprenticeship candidates full training duration which would not be the case if projects were procured independently. Also, the construction programme helped the main contractors and tier two suppliers to work in different projects at the same time which increased engagement with the client and the diversity for trades benefitting apprenticeships training.

To create SV aligned with the client's perspective, the projects were in close proximity to each other where apprentices and suppliers worked across different projects without travelling long distances. Furthermore, to bundle projects effectively the client collected information about local suppliers, the conditions of local supply markets and local social challenges they needed to solve using the schools' programme. The clarity and certainty of projects' pipe line provided continuous volume of work offered all parties (the client, the three main contractors and suppliers) bargaining power over their immediate employees where the main contractors had the power to encourage suppliers to engage in SV creation. Main contractors' knowledge of the pipeline was used to show suppliers that they can win more work if they achieve the objectives required by the main contractors in three categories which were employment, training, skills and local economy. In addition, the main contractors extended the outcomes' impact for local apprentices through the diverse range of construction activities which they participated in while at the same geographical area which offered them continuity without having to travel long distances to join a different project or trade. Accordingly, the pipeline being in closer areas offered more opportunities to complete apprentices. The main contractors argued that the aggregation of demand and sound pipelines of work in the future was the route they would engage in because it clarified the client's SV outcomes perceptions were.

Pipeline Benefits for Suppliers: Suppliers of the programme benefitted from the pipeline and the aggregation of demand within the geographical area because of the consistent work they were receiving which enabled them to invest in training and employment schemes. The defined pipeline provided the three main contractors with leverage to their requirements of apprenticeships and local employment and gain the trust of their suppliers that the flow of work can support this commitment. Smaller suppliers mentioned that their outcomes, which lead to SV creation, have risen since getting involved with this programme because of the guaranteed pipeline and their improved knowledge of SV. The staggered start dates of projects enabled the suppliers to have an extended flow of projects suitable for their capabilities and resources. The payments timing of the staggered projects assisted the suppliers to have financial confidence even when committing to agreements with their suppliers when purchasing in advance.

The supplier, in the programme, varied according to their financial capabilities where they were split into two large regional subcontractors and two small local subcontractors. This differentiation created different perspective towards the programme because, while the small

suppliers preferred a series of low to medium value projects than a large project because of the higher risk the large suppliers preferred a single high value project because of the less effort needed to manage it compared to a series of projects. the large suppliers invested in offices in the local area because of the guaranteed flow of work where the programme took place where the suppliers d hired an independent workforce from the same area. Investment created indirect SV outcomes for all suppliers where the trickledown effect of socioeconomic outcomes benefitted the smallest tier 3 and tier 4 suppliers working with their employers. Finally, the pipeline assisted the client organisation to concentrate their business units' efforts in supporting different types of suppliers in recruitment and local engagement which could not have achieved for independent smaller projects without having the same focus.

Project Size and Type: the value of a projects within the programme was influential because, on one hand, if the value was lower than what was agreed the client and the main contractors would not have proper time to plan and deliver suitable outcomes because the budgets and time scale would not offer such planning time. On the other hand, because the projects had budgets exceeding 5£ million, they had a larger scale of work and longer duration which offered the suppliers enough times and work to plan and execute. Hence, the bundling exercise provided the projects with more adding resources than a single higher value project. Compared to a single project with high value, the programme consisted of projects with suitable work packages which were suitable for the smaller suppliers targeted by the client from their local market. Suppliers' financial capabilities which could have limit their ability to work on the programme were considered when the client was making the procurement decisions to assist tier 2 suppliers to commit to more than one client which reduces the risk of insolvency.

Projects' value did not automatically guarantee the creation of SV even if they were procured in bundles, because the value affected the ability to hire suppliers from the local market where larger projects increased the risk of insolvency for smaller suppliers. On the other hand, smaller projects could not offer suppliers the volume of work within its packages which would enable them to deliver what the client viewed as SV outcomes. Accordingly, when developing the programme, the client looked into the value of the projects as an influential factor. Even though a single project could have been better for local employees through having a single travel destination; the longer duration of employment for the programme in a small geographic area and was better than a single project because of the longevity. Trade skills linked to different phases of a project were better utilised in the programme than a single project where the skills would have been required only once giving the suppliers the ability to train apprentices with a well-rounded knowledge of their trades. The value of the project enabled the local smaller suppliers to work simultaneously with other clients in the region and to plan their annual programs of work properly. In terms of SV outcomes for the larger suppliers it was easier to manage apprenticeship programmes and suppliers in a single area. The client organisation created SV through single projects and programmes, but they were aware of what the value of the project can do to the volume and duration of outcomes if the projects were high or low values. Finally, the bundled projects with lower values were more suitable for the local suppliers who preferred smaller jobs to mitigate the risk of insolvency and financial burden of higher value projects.

6.3.3.2.2 Strategic Procurement Route

The importance of the strategic procurement route for the programme was recognised from the inception stages where the client organisation knew exactly how important procurement selection impacted the delivery of their requirements. The decisions made by the client organisation about how to approach the procurement exercise were triggered by their decision to aggregate demand and bundle the projects they had. They recognised what the procurement route could do for the SV outcomes' creation and how proper delivery route could support the numbers developed in the pre-procurement stages and business case building. The choice of construction frameworks was suitable for the programme where projects procured through the two-construction framework yielded SV outcomes which were aligned to the client's vision than traditional OJEU procurement. Construction framework set up helped the client to manage bundle and deliver more by coordinating SV outcomes because of the continuous flow of projects which created their bargaining power.

The single supplier framework offered the client long term relation with that supplier, because of previous projects, increased their trust and commitment with the supplier on issues such as SV outcomes. This assisted the client in planning SV engagement for the projects procured through that framework because the framework had a built-in minimum level of requirements which the client used to initiate SV dialogue with the suppliers. The client believed that collaboration on needed the projects dictated that the procurement strategies they adopt would be construction frameworks because these frameworks had collaboration with their supply chain among the main ethos. Frameworks a four-year partnership with their contracting partners a level of trust was established between them where a sound process of work was established between the framework and the contractors in terms of depicting how SV can be created through outcomes such as the shared apprenticeship scheme which requires a series of projects similar to what the client had to offer.

They also implied that early involvement of the main contractors in the design and construction activities was an element influential to SV outcomes which was provided through the frameworks. In addition to the collaborative culture and long-term commitment between the client and the contracting partners which both frameworks offered, the client recognised that there were more benefits to their projects such as shorter time to market, high client satisfaction and KPIs system. Localism, which was a speciality of the regional framework where contracting partners on that regional framework had unique experience of the North-West (worked with the client organisation on previous projects) which included the delivery of local benefits which what public clients in the region instilled as SV. An example of collaboration between contractors and construction frameworks was the apprenticeship scheme which was open for any client to utilise their project through a long-term benefit of creating apprenticeships which exceeded their project's duration. The trust and collaboration between both framework organisations and their contractors helped them to bring outside clients and benefits from the bundling approach the framework was offering.

In addition, the client procured through the regional framework because of the two-stage procurement process it had where the first stage delivered the contracting partner selection and the second stage finalised the cost of the project. The national framework was chosen initially,

to deliver flexible design solutions which were the unique selling point of the framework but when the client was building the business case, they depicted that this framework could assist with the creation of SV. In addition, the framework performed a lot of tasks from the outset of the project because there were no procurement procedures. Because it was a single contractor framework the supplier engaged early with the client's design and delivery needs offering the client time to properly plan the delivery of their objectives. SV requirements were articulated through the regional framework mini competition which was a series of questions set by the client for the bidding contractors to answer and select the most suitable contractor based on these responses. The mini competition provides the client with bespoke questions about SV outcomes where these questions were bespoke because the framework was already OJEU procured. The questions were 30% cost and 70% quality, with the client targeting SV questions to be 15% of the 70% quality questions. Furthermore, frameworks had working groups which discussed best practice in different disciplines, including SV, which meant that the contracting partners had experience with delivering projects with SV objective with different clients.

The frameworks did not guarantee SV creation despite the flexibility, knowledge and guidance they provided. It was the intervention of the client organisational champion who promoted the creation of SV throughout the programme using his political power to lead the organisation. To clarify, if the champion did not encourage the client organisation, they client might have approached the construction frameworks in a different way which would not have utilised what the frameworks had to offer in terms of SV. Framework organisation tracked SV performance of their projects where against what was included in the procurement documents and partnership agreements. This exercise was done monthly to ensure projects were closely monitored so that public clients can use the performance measurement to justify their decisions and improve their contractors' performance. Both frameworks collaborated with their suppliers, which were suitable for the long term of the programme and its early engagement with clients' requirements and already passing OJEU procurement rules which eliminated unfair business claims. The framework organisation provided a set of extra requirements to the main contractor where the main contractor fulfilled the requirements of the framework along with the client requirements. Finally, the procurement route was accommodated by the choice of contract between the client and the contractors with share pain share gain mechanism and NEC 3 option C contract where there was transparency financially between the client and their suppliers.

6.3.3.2.3 Design and Construction Characteristics

Design and construction decisions and selection of materials impacted the programme's outcomes and objectives and not just the design objectives. The design and construction characteristics lied between the projects having generic design requirements with available suppliers or being a unique product with a limited number of suppliers. The effort needed for SV creation by investigating design and construction options varied according to the sector and depended on the nature of the build. It was client's awareness and the contractors' experience to make construction and design choices which would boost the volume of SV outcomes of their programme where their knowledge of the local context and construction and design technologies helped them in choosing suitable design solutions. In addition, to local context experience with breaking down construction packages and linking them to local

context, such as awareness of big construction packages being paid for by the client. This construction experience did not exist in-house for the client and therefore, the experience of the three main contractors was essential for these decisions.

Different sectors such as education, health, transportation and other sectors had different approaches towards design and construction characteristics as the social infrastructure sectors were more generic towards construction and design approaches whereas, transportation and infrastructure sectors had more of a specialised approach towards design and construction activities. There were sector-related characteristics which impacted the delivery of SV through design selection. Furthermore, the local authority had experience with construction projects that serve in different sectors which improved their ability to deal with the local benefits they aim to achieve every time they delivered a construction product such as roads, retail hospitality. This experience assisted the client in adapting their approaches to create SV by working in different projects with different contractors. On the other hand, the main contractors had the construction knowledge needed to make these types of decisions and with trust between them and the client organisation because of the large pipeline of work and collaborative nature of the relationship. Previous experiences of the main contractors about construction methods improved their ability to manipulate the design towards the SV objectives. However, it was the client's plan and choice about SV creation which encouraged the main contractor to act on these requirements and utilise their experience where the contractors recommended that structure frames would change to timber instead of concrete or steel which were not available locally which would reduce local supplier engagement and the client, based on their experience and awareness, agreed on that to boost local expenditure.

The framework organisations had experience in delivering construction projects from different sectors where they had specific approaches towards standardising as much as possible in construction projects from different sectors. In addition, the buying leverage developed through the bundling of multiple projects encouraged the contractors to create SV regardless of the sector. It is embodied with different parties of construction projects that different sectors have different outcomes as SV through the different characteristics of each sector, with the duration of projects, nature of suppliers and specialist works but this does not mean that a sector has significant advantage over another. The main contractors were the entities suitable to create SV because of their size and the multiple departments they had which dealt with different sectors.

6.3.3.2.4 Local Context

Local context was an element with importance to SV creation in this programme where it was classified in two categories, firstly, local context about supply market and how it was utilised to deliver local benefits; secondly, local context and information about community requirements and social challenges which the programme was used to solve. Both elements of local contexts were unique only to the client organisation and the area they were responsible for where the context, knowledge and experiences could not be duplicated to other areas. With the client organisation being a local authority, they utilised their business units, discussed earlier, to gain the information about both elements of local contexts of the geographic areas they serve. The client organisation used the knowledge they had about the local context to

encourage main contractors to hire local suppliers and recruit local work force. Business units within the client organisation communicated with the contractors about the local context based on the information they possessed which built realistic expectations to the outcomes of the projects. The local context was communicated to the main contractors from different source and levels of different business units and from meet the buyers' events which helped the main contractors in understanding the local market capabilities by directly meeting local suppliers and building knowledge about them. Local context was extended to include the delivery of strategic plans of the local authority which might have offered information about immediate issues which needed to be solved through the program of projects and the strategic planning.

Furthermore, local context had an impact on the programme's attributes such as procurement strategies, where the knowledge of the client about the local markets capabilities and needs led to the selection of a collaborative approach in the form of construction frameworks and used the knowledge of the main contractors about the markets capabilities to create value for the local community. During the programme the client organisation developed a data base about their local supply market capabilities where the data was collected through meet the buyers' events and the main contractors experience and knowledge. Within the program the client organisation gained experiences about their local context in the form of their needs and supply market capabilities.

6.3.3.2.5 Main Contractors' Responses

The main contractors were the link between the client who could not directly create SV on their own and the fulfilment of SV requirements where the main contractors carried out most of the work to transfer the client's requirements into deliverables. The main contractors directly delivered activities for the client and guided suppliers into delivering their share of these activities which resulted in the creation of value aligned with the client's expectations. Responding to the client's requirements, the main contractor had the capabilities to exceed the initial targets of SV, through their business-driven nature the main contractor innovated in creating SV outcomes. The main contractors gained the understanding and knowledge of what the aggregation of demand could do for their business and consequently created a contractors' group with the role of pooling together their projects, from different clients, and aggregating their own projects.

An unengaged main contractor could have been damaging to SV and the client's requirements because the main contractors were viewed as the entities delivering the construction activities and final product or service. If the main contractors had no understanding of the client's notion of SV, the programme's SV objectives would have been hindered. The diverse experience of the main contractors with different projects changed their approaches towards SV creation based on their diverse range of knowledge. The main contractors suggested solutions which enhanced SV outcomes by leading the construction decisions to involve more local suppliers and creating more outcomes. Hence, the leadership of the main contractor and the innovative mind set which came from being a private sector organisation competing to win work influenced how solutions were planned and executed. The main contractors support to SV creation encouraged suppliers to include it as a core objective of the projects they were involved in resulting in increased SV outcomes.

The main contractors' business models towards SV were complex and had multiple elements which led them to using SV as a marketing tool to win more work from different clients who were interested in SV creation. On the other hand, individuals within the main contractors' organisations were engaged ethically in creating value for their communities. The main contractors acted based on their business interests and commercial opportunities, where the programme offered them the motive to change their approach towards value creation. The volume of work and guaranteed pipe line triggered the main contractors' interest in fulfilling client's requirements which had SV in the middle of it. The main contractors collaborated further to deliver more in the hopes of winning more work through their unified approach towards SV.

To achieve satisfying results for this programme the main contractor had a proactive approach for SV creation. The main contractors took the initiative in selecting design solutions for SV outcomes where the approach they adopted was a proactive one. They investigated the design problem, named a suitable answer to it and convinced the client with how they would benefit from their changes. The knowledge the main contractors had of the local market capabilities assisted them to improve the understanding of the client and shape their expectations to something which suit their local context. If the main contractor did not have this knowledge or did not engage actively with the client, the requirements might have not been realistic. The main contractors' proactive personal commitment improved how SV was planned and eventually delivered. The proactive approach of the main contractors included investigating local job centres to align their programs with the SV plan they had for the programmed, this would have not happened if the main contractors did not have a proactive approach.

Finally, the main contractors were supervising and educating supply chain members to improve their capabilities and understanding of how to create value adding outcomes throughout the programme. Just as the client provided a consistent pipeline of work to the main contractors, the main contractors provided a guaranteed pipeline of work to the suppliers. Educating suppliers began early on the programme where the main contractors ensured that the SV message was clear to their suppliers and showed how important it was to their employers, the main contractors. The main contractors who took part in the delivery of the unified apprenticeships schemes had the knowledge and experience to lead their suppliers in recruitment and management process. Suppliers had minimum interactions with the client as it was the main contractor's role to deliver the message and lead them in playing a role in SV creation. The main contractors were responsible for communicating with the suppliers about SV. The main contractors targeted the companies which helped them to deliver local jobs and approached them with their knowledge about SV outcomes which varied from buying locally, hiring locally and recruiting local apprenticeships. The transfer of information and sharing the responsibility of SV improved suppliers' engagement and understanding. Suppliers bought into this level of engagement because of the volume of work expected from the main contractors because they aspired to win more work from the main contractors they had to collaborate and deliver.

The main contractors provided the linkup between suppliers and the client's business units which possessed the knowledge about local context where suppliers would not have been able

to interact with these business units without the support of the main contractors. Even with more experienced, regional suppliers' the main contractors had responsibilities towards informing them about SV planning and execution. Early meetings for planning the delivery and tracking the progress of the suppliers before the start of the projects were important by the main contractors even with the more experienced larger suppliers. The main contractors followed through with the assessing the impact of SV outcomes and the performance of suppliers through tracking local labour from all sites, tracking apprenticeship hours and making sure that what was planned in the beginning of the program is delivered all the way through.

6.3.3.2.6 Supply Chain Members' Responses

The response of supply chain members impacted the volume and quality of outcomes being delivered through the programme where the rigor and quality of the message being communicated by the client and cascaded down by the main contractors, form the views and understanding of the suppliers about how serious SV would be. The response of the suppliers depended mainly on the pipeline (programme) and the volume of work which they could win from the three main contractors where the consistency of work assisted them to invest in apprenticeships among other outcomes.

Suppliers responded to the suppliers' messages about SV to win work and satisfy their employers where they responded to client's demands to make sure they win work which displayed how communication was important to guarantee suppliers' engagement. In this programme the communication held a sense of urgency and importance which was passed from the three main contractors to the suppliers. Suppliers might not have had the same perspective of the local authority where the suppliers could have over committed to working with multiple clients without assessing the risks of financial burden of different jobs. Therefore, despite local suppliers wanting to invest in outcomes such as apprentices and training programs clients track their performance to understand whether they can handle their volume of work or not. The awareness of how important employing local suppliers was recognised by the client where the trust levels for the suppliers have increased. The suppliers had confidence that the main contractors would pick them for local jobs and that cost only would not influence the decisions of hiring them. The main contractors knew the importance of hiring local suppliers from a commercial point of views.

Suppliers responded similar to previous experiences they had and how they were used to deliver which varied from buying local to apprenticeship and training. The business model of the suppliers accommodated the recruitment of apprenticeships because of the skill shortage and cheaper wages they offered apprentices. The suppliers hired apprenticeship to provide cheap labour to be trained by other skilled employees in different sites to be the skilled workforce which the company can then use permanently. The role apprenticeships programmes played in the progress of certain individuals' careers have been significant and the tier 2 suppliers knew that apprentices were important providing better individual behaviours and deliver career opportunities which had a long-term individual on the long term.

Local purchasing was another form of outcomes which the supplier engaged in; however, it depended on the trade and the size of the supplier. Some materials could not be purchased

locally whereas; for other materials it was economically advantageous to be bought locally. Local hiring was among the outcomes where the suppliers targeted local residence as their workforce when they were hired to work on the programme. It was the business model of the local suppliers to hire locally however, for this programme the suppliers were made aware of the importance of hiring locally by their main contractors. On one hand, suppliers who were local tended to hire local workforce by default because of the areas they worked in. On the other hand, smaller suppliers who were not regional or national subcontractors tended to hire local workforce within the immediate geographical areas they were working at. Large suppliers which worked on a regional on a national level employed the workforce on their projects from the areas the won work at. This offered them the same benefits of having local workforces with the local authorities, with their main contractors and do that economically.

The suppliers which had the experience of delivering certain outcomes such as apprentices had the capabilities to perform the activities on their own, without the assistance of the main contractor. The main contractors produced the requirements which was suitable for the suppliers but gave the suppliers the liberty to come up with their own delivery. With the business model supporting apprenticeship recruitment, the main contractors became more encouraging for suppliers to recruit apprentices. The main contractors supported suppliers who needed guidance, smaller suppliers, to recruit apprentices during the bidding stages to enable suppliers to successfully deliver apprentices and be part of the delivery strategy to satisfy the client. With the smaller suppliers specifically, the communication, guidance and support from the main contractors enabled these smaller (local) suppliers to create SV outcomes and utilise the knowledge and experience they gained to win more work with other clients and main contractors. In addition, suppliers became more aware of how to display the SV they are creating for their own benefit.

Downstream the supply chain, the suppliers lower than the second tier of the client, and their responses varied where these suppliers were material suppliers who were national and very large organisation, larger than the suppliers purchasing from them, which means that the suppliers did not have any leverage over them. Because of the commodity being purchased lower tiers can be companies working on a national level of the market which means that whoever purchases from them does not have the leverage bargain with them about SV on a local level to suit what the client requires. However, these companies had their own CSR plans, but they had different perspective than what the client and supply chain aimed at for local SV. On the other hand, some of these downstream suppliers were a one-man band which was internal organisations, which were not equipped to deliver apprentices or hiring locally but created value by creating socioeconomic activities. Just the existence of local suppliers who deliver some form of socioeconomic benefits to the local communities where they exist is the very form of SV which the client aimed at creating. The ability of tier 2 suppliers to hire local companies in lower tiers improves the socioeconomic benefits to the area no matter what size these companies are which is considered mainly as SV with a local focus and fulfil the criteria of the client organisation.

6.3.3.2.7 Time of Engagement

The time of introducing SV creation to the planning of the programme and including it in the core objectives of it had an important impact on the outcomes where early engagement assisted the client to plan critical decisions and give more time to exercises such as selecting procurement, deciding on design and construction elements, supply chains selection and local context investigation. The inability to provide time for the client and the supply chain as early as possible by the client could have resulted in unsatisfactory results and the opportunity would have been wasted. Investigating local supply market capabilities and local social needs, by the client's business units, started from the inception stage to enable business units with the adequate information and experience to add vital information to planning SV creation. The business units considered skills and employment targets as early as possible whereas, it was usually thought about in later stages.

Early engagement compensated for trust, it was not yet established, between the client and the main contractors where early engagement and exploring the needs of the client and what the main contractors can achieve before starting construction activities reduced pressure on both parties to deliver client's satisfactory results because they had more time to familiarise themselves with the requirements and capabilities. The client did not develop any schematic design before engaging with the suppliers about potential SV outcomes because the design decisions depended on the local market capabilities information. Investigating local market capabilities early before design and construction decisions assisted the client, with the help of the main contractors, to make design choices that would support SV outcomes. To demonstrate the importance of early engagement with SV delivery the client interviewee suggested that even earlier engagement with the knowledge they gained from this programme could improve SV creation and deliver further outcomes such as, apprentice and local procurement. It was argued that extra time would have offered the client with the opportunity to enhance their understanding of SV outcomes, through their business units, and plan better activities such as the meet the buyers' events between clients and main contractors.

6.3.3.3 SV Characteristics

The nature of the SV outcomes which have been delivered through the projects procured by the client organisation had a specific nature and multiple attributes which distinguished it from other projects or outcomes. The nature of the SV outcomes is discussed below, and Figure 54 shows the subthemes of these SV characteristics which emerged through the thematic analysis as follows:

1. Depicting SV
2. Managing SV through a program of work
3. Assessing SV outcomes
4. Types and forms of SV Outcomes
5. SV Legacy.

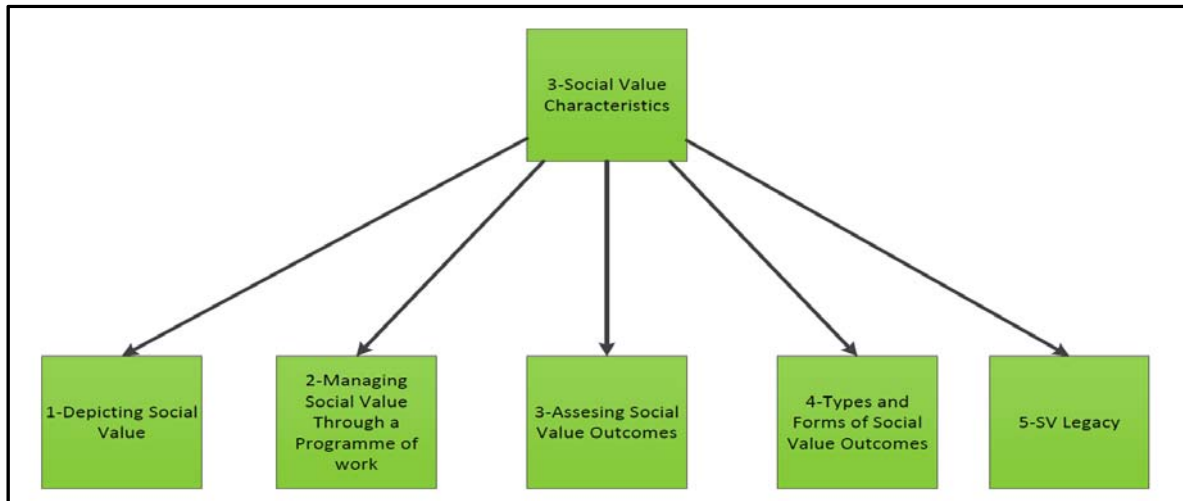


Figure 54 SV Characteristics Subthemes (Case Study Two)

6.3.3.3.1 *Defining SV*

Selecting SV outcomes was an important activity at the beginning of the programme to enable the client to focus their efforts in delivering what has been identified as important deliverables for their local communities. Business units had the information, knowledge and experience to interpret what the local area needed from the program. For example, the employment and skills business unit considered the high unemployment for the youth in the geographical areas where the program was taking place in their decisions to focus on apprenticeships and local work forces as their main outcomes. Selecting and justifying these outcomes was the responsibility of the client organisation; however, the main contractors participated in this activity as well. The main contractors assisted with information they had about certain trades or targets being acceptable or not through engaging in whatever the client organisation defined as areas for improvement.

Understanding the local context of the local supply market capabilities gave the client organisation the opportunity to employ more local companies and create the economic prosperity. This assisted the client to build an understanding around the strengths and weaknesses of their supply market and they influenced the design and construction characteristics to suit these capabilities. Despite the success of this programme and the effort the client organisation made to define the most suitable outcomes for what was being offered, the main contractors and the client both agreed that the process of defining what was being delivered was a difficult task and was challenging even to experienced organisations. The difficulty came from the single, one off project approach when creating SV because of the limitation this approach holds in terms of time and resources. This difficulty was managed through the bundling of projects together which provided the client with the main contractors and the assistance of the frameworks to plan SV on a wider approach exceeding a single project approach.

6.3.3.3.2 *Managing SV through a program of Work*

Managing and transferring certain outcomes through the programme across multiple projects impacted SV creation where procuring the programme was different from one-off projects. The programme took a longer duration to complete when compared to a single project despite the value element. Accordingly, outcomes such as local buying, local workforce and

apprenticeships were moved from project to project across the whole programme which provided longer impacts of the results. Shared apprenticeship schemes were managed across multiple projects to ensure that the apprentices had continuous work to fulfil the duration needed to graduate which elongated the benefits of SV beyond a single project. SV in the programme's (pipeline) was managed by the collaboration between the main contractors and the client which provided consistency to the client.

It took a lot of effort to break down programs and spread outcomes across the whole pipeline which was achieved by managing the head to tail outcomes and preventing apprentices, workforce and suppliers from having long breaks, between projects, that would have disengaged them from the programme or would have prevented them from taking apprentices or hiring local workforce. Despite this being highly beneficial for the local community, it was a highly complex task to optimally manage the selection of suitable employment and training providers, monitor performance, the possession of local context knowledge and intervention mechanisms if the performance indicates that there was improvement needed. The client's knowledge of the apprenticeship schemes and providers was important to manage this type of outcome across multiple projects where the client had to make sure that their management approach reached lower tiers and not just main contractors and that, local suppliers were able to benefit from the program management outcome schemes.

In addition, construction frameworks had a role to play in improving outcome management across multiple projects with a similar approach to the clients. The frameworks had a unified approach where aggregation of demand through their work was similar to what the client adopted when bundling projects. To clarify, the only difference between the client and the framework was that construction frameworks were used to doing aggregation of demand with multiple client organisations in a diverse range of contexts. Construction frameworks aggregated their work together to elongate the outcomes and exceed the initial projects which is the main benefit of aggregation of demand. The approach was done with projects from different clients who share the close vicinity of a geographical area to create a structures pipeline to include these projects. Managing apprenticeships across multiple projects relied on the proximity of the locations because of low payments the apprentices received prevented costly commuting. Therefore, apprentices required an organisation to manage them as they would have not benefitted from the pipeline without the intervention of a liaising organisation. With that said managing apprentices was still a challenge for the client and contractors equally because of the unique nature of construction projects.

Regarding suppliers and sub-contractors managing apprentices across multiple projects, the size of the company impacted their ability to manage apprentices and transfer them between projects. Smaller subcontractors required the assistance of the main contractors due to the lack of work volume that would cover the total duration for apprentices to graduate where main contractors took apprenticeships through their pipelines or transferred them to other subcontractors working in the same vicinity. On the other hand, larger subcontractors who worked on a regional and sometimes national basis had the capability to manage apprenticeships due to their large volumes of work. They had the skills in house to manage these individuals across their pipeline without assistance from the main contractors. This

program helped smaller subcontractors to have a flow of work and projects assisting them in maintaining their apprenticeships across different projects without having any disruption periods. The client's approach towards their pipeline, their funding structure helped them to plan their projects and their timing to the optimal.

6.3.3.3.3 *Assessing the Impact of SV Outcomes*

The client organisation assessed the impact of the outcomes they created to demonstrate the improvements their investments made on the local communities and the local markets. The client relied on assessing the impacts of their investment as a tool to justify their investment decision against scrutiny and accountability. The client had generic methods of utilising KPIs on a local level which they adjusted with the help of the main contractors to capture the specific context of the program. The main contractors provided the client with data about; local spend, local workforces and apprenticeship hours to measure against their own targets monthly for the whole program and not just a single project. The data was analysed by the client and presented to the programme managing board and local councillors to compare against the targets set for the programme. The client reported on different types of SV outcomes to understand the impact their investment had. Data about the local labour such as ethnicity, gender and age groups were provided by the suppliers to provide different results to the measurement. The resulting reports were then used to assess the performance of the suppliers and the main contractors. The main contractors and suppliers used site ID cards to calculate man hours based on postcodes which then allowed them to identify areas of work. In addition, apprenticeship geographical distribution was tracked by the client business units because of the political pressure local councillors have over the client and delivery of apprenticeships. Accordingly, the client organisation tracked local apprenticeship to justify their investment decisions and once this was established the client did not hold the same level of scrutiny over the outcomes.

One of the main contractors used the data they collected about their local expenditure in a performance management activity where they aimed at increasing their local engagement when there was room for improvement. In this occasion the main contractor changed its approach towards the design and construction activities using impact assessment results to improve local engagement. The construction frameworks had different tools for assessing SV and tracking the impacts of the outcomes which they developed to assist clients to justify their decisions and for the frameworks to gain competitive advantage over other frameworks. SV assessment required the participation of the main contractors and the resources they had to collect data about their performance. The main contractors tracked their expenditure, their workforce and local apprentices and sent the data they collected to the client organisation in order accumulate information about SV being delivered. Suppliers also provided information to main contractors, but the information was structured enough to measure their own performance where they provided this information because it was required by the main contractor.

6.3.3.3.4 *Types and Forms of SV*

Types of SV outcomes perceived by the client as the way to create value reflected the characteristics of the client organisation and its nature as a local authority and impacted the types of outcomes. In this programme because the client was a local authority the organisation had to deal with different social challenges (in the local areas) such as unemployment which

was part of the improvement program of the local area. SV outcomes were linked to the nature of the construction projects being in the education sector and the main contractors' experiences with similar projects resulting in numerous site visits and promoting construction to local schools as tools to attract school leavers and encourage younger generations to join the industry.

In addition, the construction frameworks were involved in the process of planning and delivering SV outcomes because they had their own understandings of SV. The construction frameworks had value creation as a core objective to their processes hence, included local spend among their deliverables because most of their clients were local authorities which justifies this choice. Furthermore, construction frameworks had the mechanisms to include local spend in the procurement strategy and stay compliant with the OJEU rules and regulations. The types of SV outcomes delivered by suppliers were impacted by the client requirements and business model with the former being linked to what the client, the main contractors, requirements being suitable to the nature of the organisation and project; the latter being suitable to the business model of the supplier with SV outcomes being a possible aid to skills shortages.

6.3.3.3.5 SV Legacy

SV legacy was the impact of the SV outcomes which exceeded the initial construction duration where the legacy was what the client organisation and the main contractors aimed at leaving after the construction was done. Both parties' objectives were different when they aimed to leave a legacy; the client aimed at improving local communities from an economic and social point of view by creating jobs, up skilling local workforces and suppliers, increasing market activities by encouraging local suppliers and improving the feeling of local satisfaction. As for the main contractors, the legacy they aimed to achieve was triggered by their commercial drive where they wanted to win more work from different clients by demonstrating to them how they created SV outcomes for different clients. To create this form of legacy the main contractors collaborated with each other to form a bundle of projects which provided opportunities to exceed single project outcomes. Leaving a legacy was important for both parties where they displayed it throughout the projects and after completion.

6.3.4 Case Study Rich Picture

Following the SSM, a rich picture was built to visually represent the relation between multiple projects, the stakeholders and the interactions between them and different factors. The rich picture was represented through symbols, shapes and arrows to create a visual representation of the problem situations and reality description (See Figure 55 for illustration the diagram shows the relationship between the client, its business units, local context, construction frameworks, main contractors and the supply chains members who are involved in delivering SV in a construction project.

The local authority led the delivery of the construction project using their experience, existence of organisational champions, culture and skilled individuals with their engagement with SV beginning in the pre-procurement of the project. Skills and employment business units were included in the planning early on the project midway through the procurement with the data

they had about local suppliers, social challenges and guiding the client on how best they can articulate SV in their bids. The client had the awareness and experience of creating a program of work in the form of linking multiple school projects in terms of funding and procuring them which changed the approach towards SV creation completely compared to single standalone project approach. The multiplicity of projects complemented each other and helped in extending the benefits for the local community beyond a single project duration, which was a problem in previous procurements, through the bargaining power they had over main contractors who wanted to win high volumes of work. Moving apprentices and suppliers from project to another after the completion was the main benefit of the program where it offered enough time to complete training programs and for local suppliers to experience commercial stability. Because the procured projects were similar in nature and in the same area the construction program was properly formulated by the client organisation and the main contractors were interested in such projects because of how it is easy to manage multiple projects in the same area and using the same suppliers through a single procurement approach. Projects were dealt with collectively and not on a project by project basis which a decision that impacted each the whole program collectively where it was difficult to investigate about a project without having results from other projects which influenced project investigated.

The client organisation implied that construction frameworks were the suitable route to procure the program because it supports collaborative culture needed for a long-term relation with their main contractors and reduce the amount of time to market compared to traditional procurement. They used a single supplier framework and a multiple supplier framework and flexibly used the benefits of both frameworks to the advantage of SV. With the client organisation being a local authority, localism was named as the main drivers for SV created which was why having multiple projects within the same area was an advantage. The frameworks were important because of the experience they had in assisting public clients in delivering benefits with local nature where the single suppliers had teams working in the same area with knowledge of SV in the local areas and the multiple supplier framework having mini competitions which enabled the clients to have bespoke SV requirements. SV was well articulated in both procurement approaches and communicated the message of how important SV was clearly.

On the other hand, main contractors responded very well to the client's requirements and were engaged from the beginning of the program using their resources, experience and knowledge on different aspects of the construction to satisfy the client organisation. Main contractors were attracted to the projects because of the large volume of work and investment the program had where project costs were equally distributed and were not extremely high, which reduced risks accompanying the construction process. The continuous pipeline of work encouraged contractor to collaborate among each other, deal with the projects collectively and adopt the same collaborative approach with their suppliers where they guided and assisted suppliers in engaging with value creation. The design and construction experience of the main contractors were utilised to boost local purchasing where they change some of the construction elements to suit existing local suppliers which reflected their experience with the local market and having knowledge about the capabilities of local suppliers.

Tier 2 suppliers took part and engaged fully in the delivery of SV with the assistance of the main contractors were the pipeline of work offered them the same consistency towards SV engagement. Suppliers adopted the approach because the communication of the main contractors was clear to them and they were assisted whenever they needed it through the client's and main contractors' diverse range of business units. Tier 2 suppliers who had large business portfolios had their own SV implementation plans which they implemented with help from the main contractors whereas, smaller suppliers had help from the main contractors and the client organisation to improve how they create value. The client organisational champion encouraged key stakeholders to collect data and demonstrate how the impact of their SV outcomes on the local community which reflected how important it was to engage in the measurement.

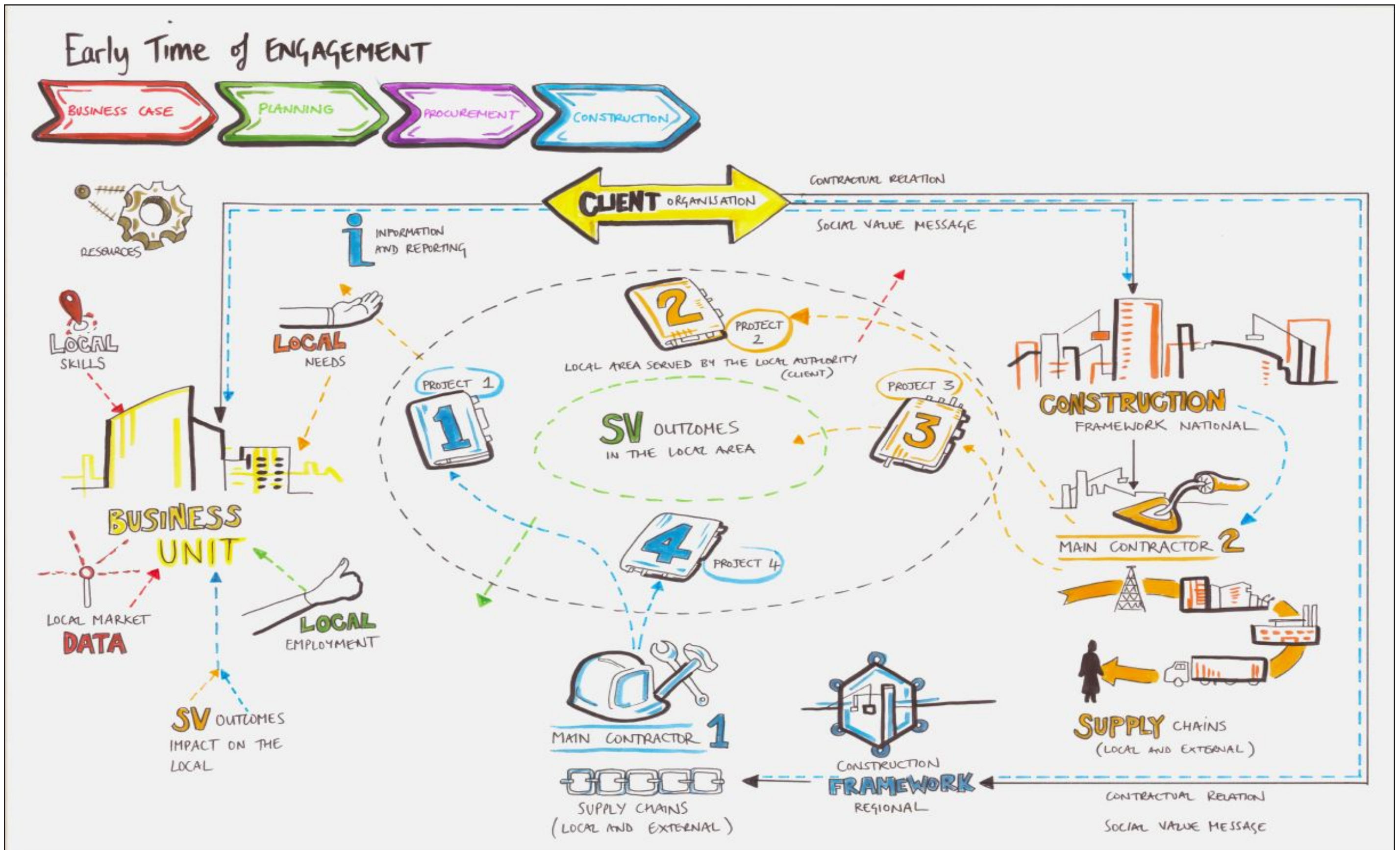


Figure 55 Case Study Two Rich Picture

6.3.5 CPTM and HAS models

The interview questions designed to develop HAS models were analysed in the below sections to show how the researcher designed a unified CPTM and its subsystems (HAS) models. Each improvement depicted from the data was transformed into a subsystem within the CPTM.

Model A Improvement: aims to name the actors needed to carry out the activities of the whole CPTM and its subsystems. For each subsystem actors are named independently but, in this case, the actors have a subsystem of its own.

Model B Improvement: aims at developing a framework to assist the client in naming the minimum opportunities their projects can deliver and maintains the flexibility to negotiate more ambitious with the main contractors depending on the project characteristics. Using a set of guide lines will create platform for the client staff to rely on when deciding in the volume of SV and have control over the main contractor's SV targets. Constructing minimum SV requirements enables the client staff member to build on that and increase the outcomes of their projects. The improvement benefits the local community including businesses and population which needs to feel the impact of local investments. The director of regeneration (capital investment) must initiate that agenda for programs that are still being developed then then cascade it down to the capital program managers. This improvement must be supported by resources because the client at its current state would not be able to support more activities.

Model C Improvement: aims at clarifying the client's SV requirements early on the project through developing a detailed description of what they expect of the projects. This improvement was suggested because at the beginning of the programme the client did not clearly know what SV was suitable for their projects and, despite the success of the program, this postponed the early involvement of important business units, main contractors and construction framework staff members. The improvement would introduce a system to define what the client value within themselves as an organisation and how this value can be achieved through the project. Construction projects can potentially deliver outcomes if it was included clearly in the planning phase, but it is difficult to introduce these outcomes later in the project because the clients influence on the outcomes decreases by time. The construction framework teams with the help of the client business units can tease out what the client organisation values and how to achieve it. This improvement depends on available pipeline of construction work.

Model D Improvement: aims at including SV delivery in the core objectives of the construction projects through developing a control process to ensure all the activities leading to SV are named and tracked. Clients need to push social value, drive it themselves and take responsibility of tracking through developing activities and assigning the responsibilities in details for the project teams and stakeholders. This improvement guarantees that clients are satisfied with the end results because of the close monitoring and tracking approach through regularly discussing SV activities, manage activities' risks and increase the involvement of the project team in the SV delivery process. This improvement must be led by an organisational champion with operational experience and political stature in the client organisation to ensure all involved respond equally. The client team, with the help of the main contractors and

suppliers will carry out the activities in this process within the limitations of the human and financial resource.

Model E Improvement: aims at track construction projects being planned in a specific region to create a pipeline of future work for the main contractors and the clients who can then plan their work and SV engagement accordingly. Because a programme provided the opportunity for long term commitments between client and their supply chains, this improvement attempts to create a programme from independent projects. Knowledge about different activities start and end dates and their location will be used to ease activities head to tail management and increase trust of main contractors and local suppliers in their ability to engage with SV in the local region. This improvement requires the engagement of multiple clients and main contractors working in the same area to create an understanding of the collective construction projects taking place in that area. This improvement can be challenged by the lack of resources needed to collect and analyse the data, create the pipeline and manage it.

Model F Improvement: aims at increasing the work won by suppliers by demonstrating their SV impact they deliver locally. Suppliers will measure the impact they have by collecting data about their expenditure, workforce, and apprentices and demonstrate that they added value in the areas they worked at. This approach in terms of measuring and assessing supplier's impact would improve how suppliers bid for work because they can demonstrate to future clients, demanding SV, how they can deliver the client's aspirations. Suppliers delivered social value but did not demonstrate their impact which they saw as an area they need to improve that can benefit them as businesses. This improvement is initiated by tier 2 suppliers leadership and it activities are done by the small suppliers' staff.

Model G Improvement: aims at targeting specific groups and include them as direct receivers of the SV benefits of construction projects. Targeting groups with special challenges and improving their lives through SV outcomes can improve the acceptance level of the projects, create a positive legacy for the client and prove that construction can be used ethically. Client's business units with information about challenged groups or groups which need immediate intervention can utilise this information and match these groups' need to the options construction projects offer. Suppliers carrying out the work would not know about which groups to target which is why the client organisation are responsible for this approach. This improvement serves the local community and targeted groups according to the available construction projects in the pipeline that would help the targeted to groups experience change in their circumstances.

Model I Improvement: aims at including the diverse range of constraints in the CPTM model based on inputs from the key stakeholders of the project who influence SV delivery to maintain the system's approach.

A consensus primary task model (CPTM) was developed by the researcher from the answers of the questions designed to yield improvements for the problem situation. The model was developed to overcome the challenges named by the interviewees and provide a method to improve the delivery process. In this case it was acknowledged by all stakeholders the

significant level of success of the SV delivery, but they were able to name the challenges which need improvements. The subsystems showed what the interviews perceived as challenges and how to overcome them.

6.3.5.1 Consensus Primary Task Model (Root Definition and CATWOE Elements)

Root Definition

A system owned by the local authority procuring construction projects and operated by the local authority, partner main contractors and supply chain members who are procuring and delivering a series of simultaneous and/or sequential projects to increase SV outcomes across the area served by the local authority through improving the planning and delivery process (which includes procurement, SV definition and construction characteristics investigation). The system serves the local communities where the projects are procured and the local authority is responsible for within the limitations perceived from the subsystems of the CPTM (such as procurement rules and regulations, human and financial resources, time constraints) to achieve the client's long-term objective of generating sustainable SV outcomes for the local population (See Figure 56 for the detailed CPTM).

CATWOE Elements

T- To increase SV outcomes across the area served by the local authority

W- Improving the planning and delivery process (which includes procurement, SV definition and construction characteristics investigation).

C- The system serves the local communities where the projects are procured, and the local authority is responsible for.

O - The local authority procuring construction projects to achieve the client's long-term objective of generating sustainable SV outcomes for the local population.

A - The local authority, partner main contractors and supply chain members who are procuring and delivering a series of simultaneous and/or sequential projects.

E- The limitations perceived from the subsystems of the CPTM (such as procurement rules and regulations, human and financial resources, time constraints).

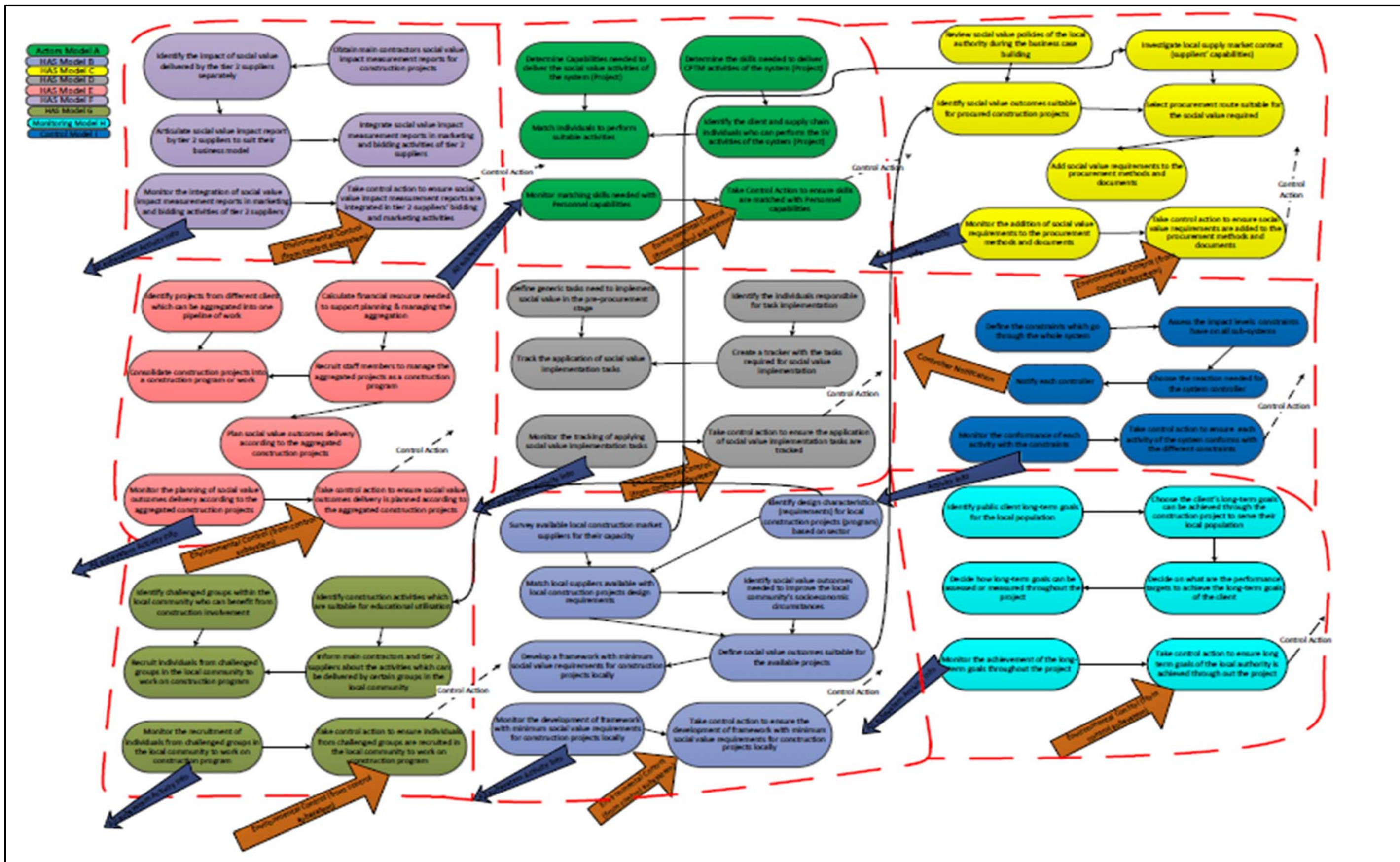


Figure 56 CPTM Model for Case Study Two

6.3.5.2 HAS Model A (Defining Actors Subsystem Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the local authority and operated by the skills and employment, procurement, development, regenerations and sustainability business units from the local authority and the main contractor's organisation to name the actors needed to deliver the SV improvement (CPTM) activities through matching the capabilities (skills) of the personnel of the project team available and the requirements of the activities. This system serves the local authority who is delivering the activities of the wider system within the limitation of the available human resources (personnel skills and experience) (See Figure 57).

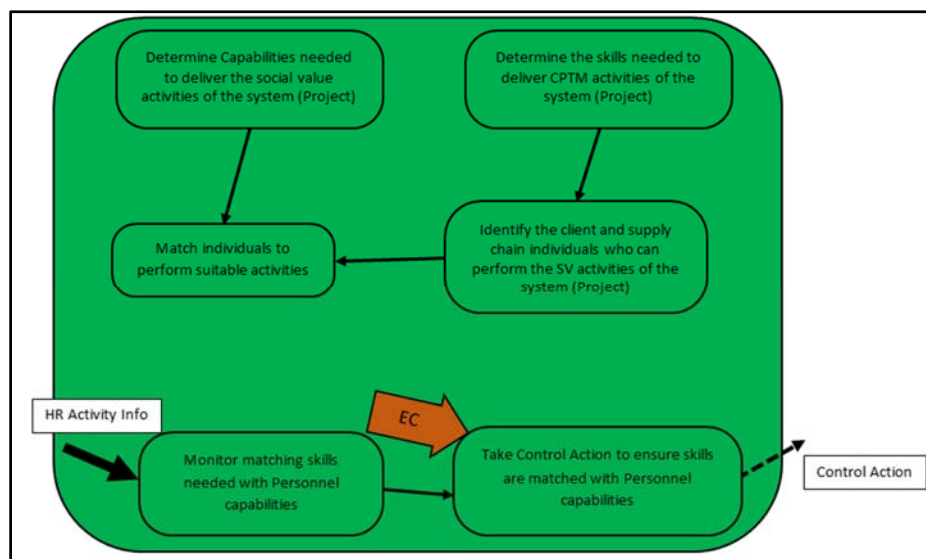


Figure 57 HAS Model A Activities (Case Study Two)

CATWOE Elements

T - To name the actors needed to deliver the SV improvement system's activities.

W - Matching the capabilities (skills) of the personnel of the project team available and the requirements of the activities the client organisation names the needed personnel.

C - The regional local authority

O - The regional local authority

A - The local authority and main contractor's skills and employment, procurement, development, regenerations and sustainability business units.

E - Available human resource to perform the activities (personnel skills and experience)

This system names the actors needed to carry out the activities of the whole CPTM and its subsystems. For each subsystem actors are named independently but in this case the actors' have a subsystem of their own.

6.3.5.3 HAS Model B (Root Definition, CATWOE Analysis and Model)

HAS Model Root Definition

A system owned by the director of regeneration and the program investment board in a local authority (with the long-term objective of increasing SV outcome within publicly procured construction programs in the local area) and operated by the local authority's skills and employment and the planning and development business units which includes individuals with construction background in the local authority to develop a framework of minimum SV outcomes based on the sector, project location and local supply market capabilities through aligning local supply market capabilities with construction project characteristics. The system serves local businesses and residents in need for employment and works under the jurisdiction of the local authority within the limitations of the available time, financial, human (skills) resources and design flexibility attributes (See Figure 58).

CATWOE Elements

T - To develop a framework of minimum SV outcomes based on the sector, project location and local supply market capabilities

W - Aligning local supply market capabilities with construction project characteristics.

C - Local businesses and residents in need for employment.

O - The director of regeneration and the program investment board in a local authority (with the long-term objective of increasing SV outcome within publicly procured construction programs in the local area).

A - The local authority's skills, employment and the planning and development business units which includes individuals with construction background in the local authority.

E - The limitations are time, financial, human (skills) resources and design flexibility attributes.

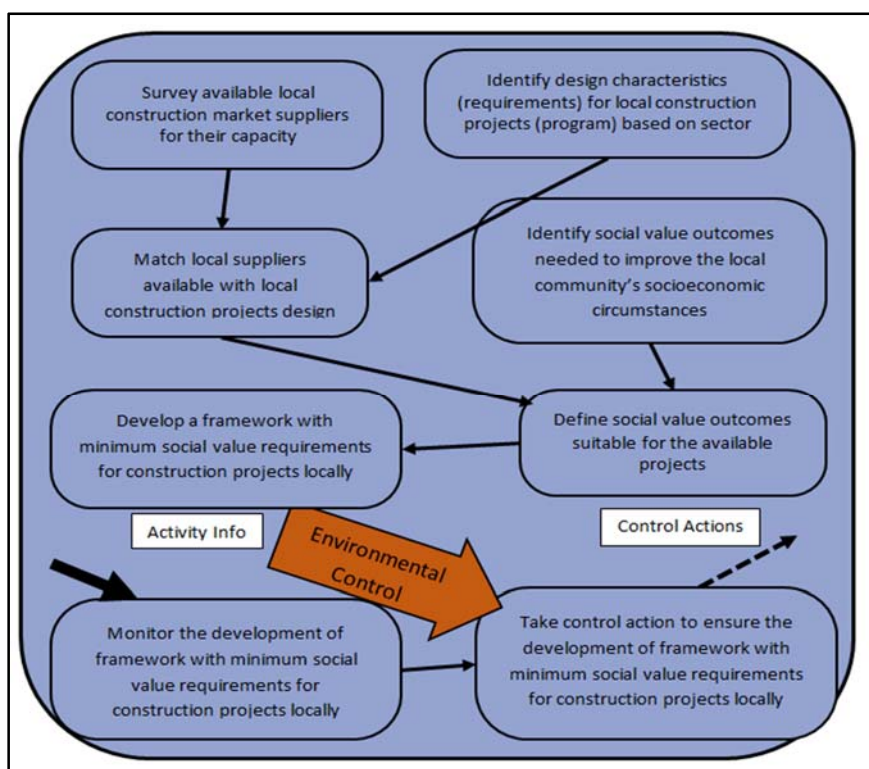


Figure 58 HAS Model B Activities (Case Study Two)

6.3.5.4 HAS Model C (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the head of the local authority with a SV champion status and operated by the client skills and employment, procurement and regeneration business units and construction frameworks teams (if applicable) to clarify the SV outcomes of the client organisation to the key stakeholders (procurement vehicles and supply chain members) during pre-procurement and procurement stages through adding SV options suitable for the chosen procurement route to tender documents. The system serves the local community under the authority's jurisdiction within the limitations of time and value of the procured projects (See Figure 59).

CATWOE Elements

T - To clarify the SV outcomes of the client organisation to the key stakeholders (procurement vehicles and supply chain members) during pre-procurement and procurement stages.

W - Adding SV options suitable for the chosen procurement route to tender documents.

C - Local community under the authority's jurisdiction.

O - The head of the local authority with a SV champion status.

A - The client skills and employment, procurement and regeneration business units and construction frameworks teams (if applicable).

E - The time and value of the procured projects.

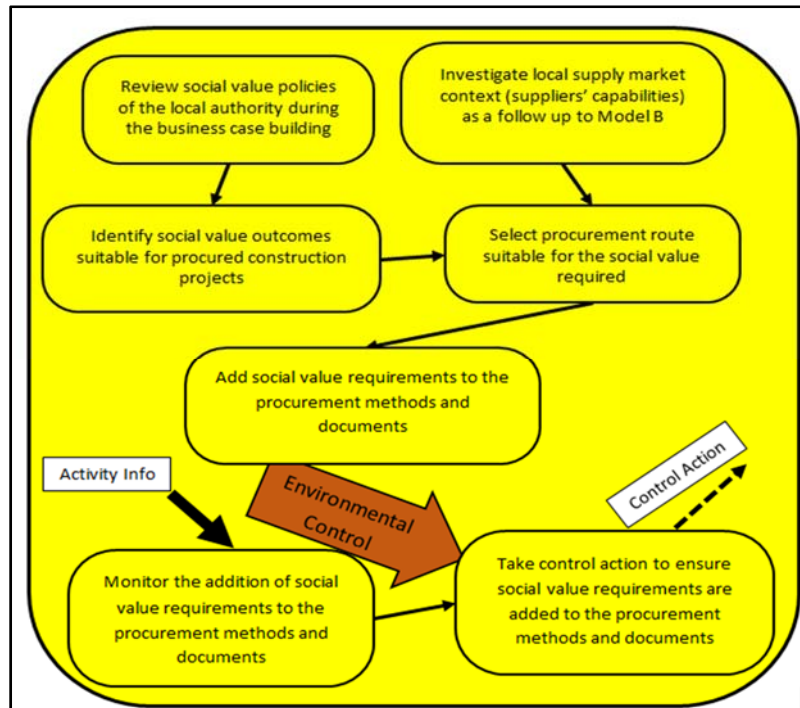


Figure 59 HAS Model C Activities (Case Study Two)

6.3.5.5 HAS Model D (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the local authority construction program board and operated by the key stakeholders (local authority, procurement vehicle, main contractor and suppliers) who would implement the activities needed for SV delivery to include SV delivery in the core objectives of construction projects procured by the local authority through developing a SV activity tracker (to help key stakeholders to carry out the activities and account for it). The system serves the local community, supply chains and workforce within the limitations of the financial resources available for the procured projects and the understanding of SV delivery within the client organisation (See Figure 60).

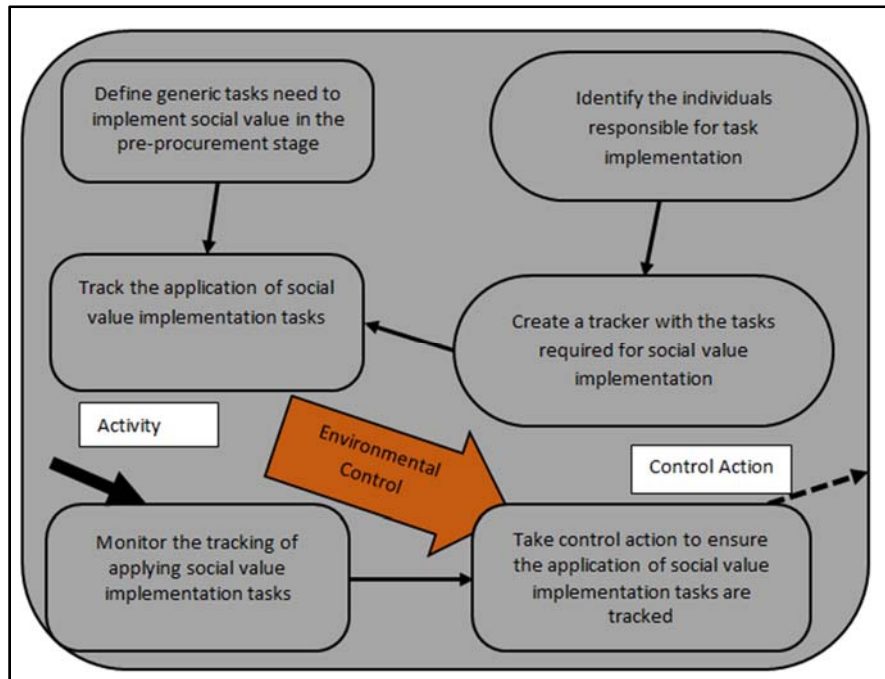


Figure 60 HAS Model D Activities (Case Study Two)

CATWOE Elements

T - To include SV delivery in the core objectives of construction projects procured by the local authority.

W – Developing an SV activity tracker (to help key stakeholders to carry out the activities and account for it).

C - Local community, supply chains and workforce.

O - The local authority construction program board.

A – The key stakeholders (local authority, procurement vehicle, main contractor and suppliers) who would implement the activities needed for SV delivery.

E – The limitations are the financial resources available for the procured projects and the understanding of SV delivery within the client organisation.

6.3.5.6 HAS Model E (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by multiple local authorities within proximity of each other (procuring construction projects) and their main contractors and operated by multiple the client organisations (local authorities in the same area), procurement vehicles and main contractors to increase the impact duration SV outcomes have from construction projects in the same proximity through aggregating the demand of independent projects (create construction programs) of different clients and main contractors into a unified construction program. This system serves local authorities, their communities and main contractors working in a single area within the limitations of financial resources needed to manage this aggregation of demand and the availability of projects in close proximities (See Figure 61).

CATWOE Elements

T - To increase the impact duration SV outcomes have from construction projects in the same proximity.

W - Aggregating the demand of independent projects (create construction programs) of different clients and main contractors into a unified construction program.

C - Local authorities, their communities and main contractors working in a single area.

O – Multiple local authorities within proximity of each other (procuring construction projects) and their main contractors.

A – Multiple the client organisations (local authorities in the same area), procurement vehicles and main contractors' business units.

E – The limitations are financial resources needed to manage this aggregation of demand and the availability of projects in close proximities.

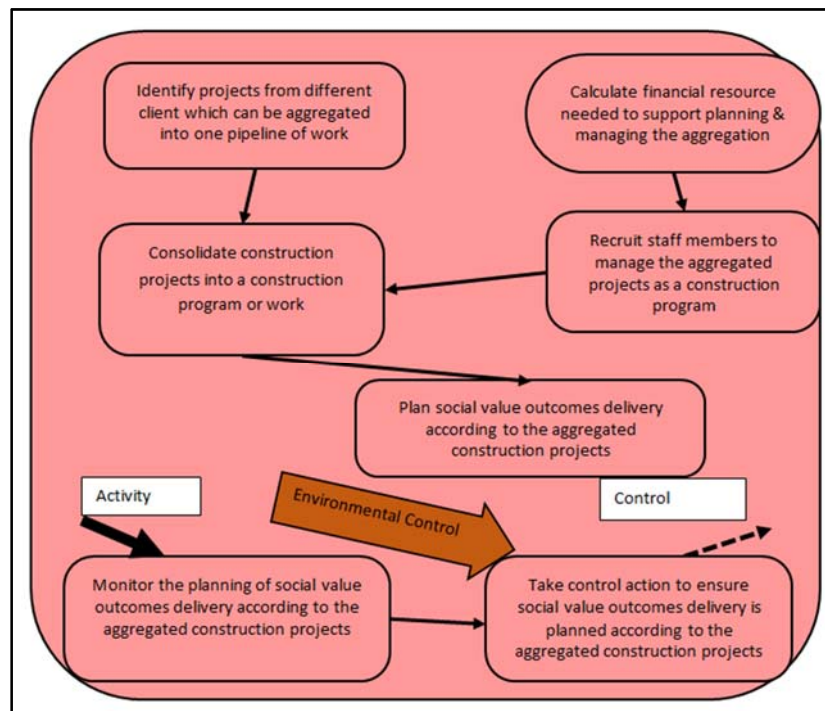


Figure 61 HAS model E Activities (Case Study Two)

6.3.5.7 HAS Model F (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the suppliers' (tier 2 contractors) managing directors to achieve the long-term objective of improving the marketability and operated by the tier 2 suppliers' management to improve their ability of winning construction work, which requires SV delivery through measuring (recording) the impact of the SV outcomes they produce from their construction work with public clients. This system serves the local tier 2 suppliers within the limitations of the tier 2 suppliers' capabilities (See Figure 62).

CATWOE Elements

T - To improve their ability of winning construction work, which requires SV delivery.

W - Measuring (recording) the impact of the SV outcomes they produce from their construction work with public clients.

C - Local tier 2 suppliers.

O - The managing directors of tier 2 suppliers to achieve the long-term objective of improving the marketability.

A – The client skills and employment, procurement and regeneration business units and construction frameworks teams (if applicable).

E – The tier 2 suppliers' capabilities.

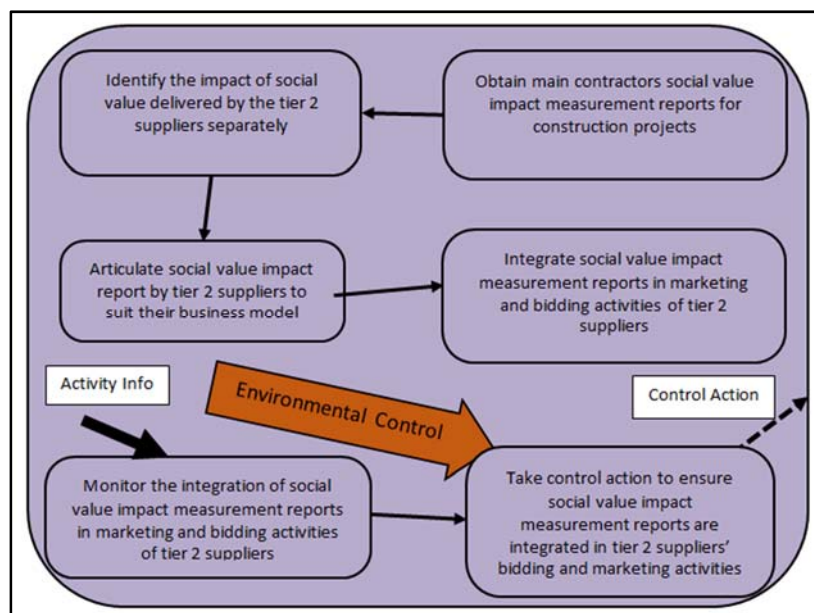


Figure 62 HAS model F Activities (Case Study Two)

6.3.5.8 HAS Model G (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the local authority, main contractors and tier two suppliers managing directors and operated by local authority employment and skills business units, main contractors and tier two suppliers' regeneration business units to improve the local impact of construction investment programs (series of projects) on the local communities through targeting certain challenged groups with specific social circumstances (such as ex-service personnel). The system serves the specific groups within the local community which can benefit from the introduction to the construction industry within the limitations of financial resources and available construction projects in the local area (See Figure 63).

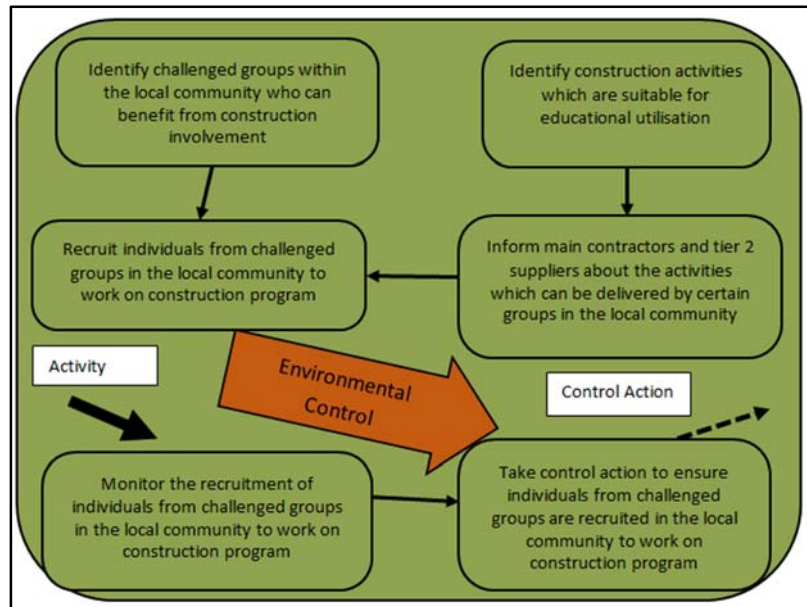


Figure 63 HAS Model G Activities (Case Study Two)

CATWOE Elements

T – To improve the local impact of construction investment programs (series of projects) on the local communities.

W - Targeting certain challenged groups with specific social circumstances (such as ex-service personnel).

C - Specific groups within the local community which can benefit from the introduction to the construction industry.

O - The local authority, main contractors and tier two suppliers managing directors.

A – The local authority employment and skills business units, main contractors and tier two suppliers' regeneration business units.

E – The available construction projects in the local area.

6.3.5.9 HAS Model H for Monitoring (Root Definition, CATWOE Analysis and Model) Root Definition

A system owned by the local authority and operated by the local authority program investment board to achieve the long-term goals of the local authority (owner of the system) in terms of SV through understanding strategic objective of the local authority in serving their local communities and assess how they can be measured against the construction project SV performance. This system serves the local communities in the jurisdiction of the authority within the limitations of the local authority's capabilities (See Figure 64).

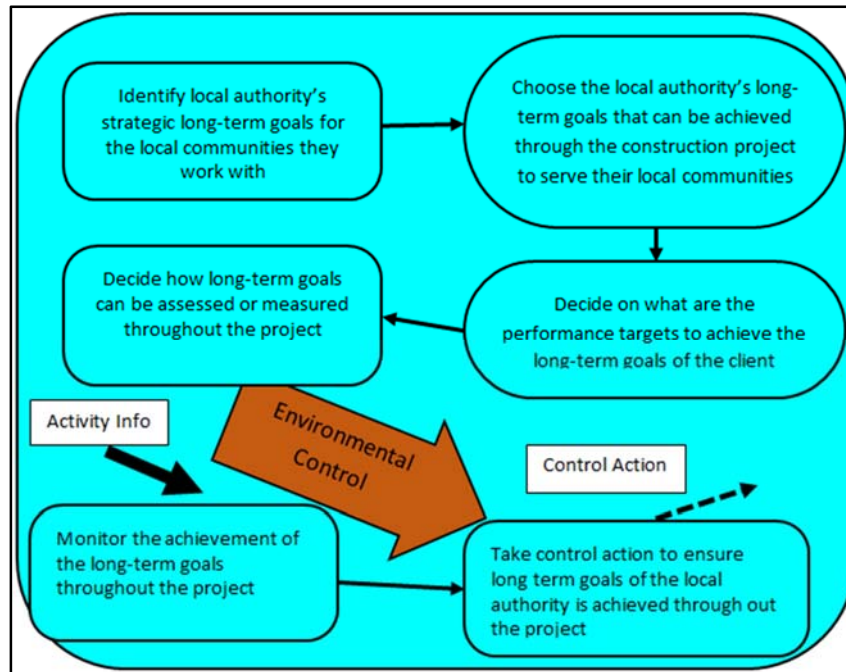


Figure 64 HAS Model H Activities (Case Study Two)

CATWOE Elements

T – To achieve the long-term goals of the local authority (owner of the system) in terms of SV.

W – Understanding strategic objective of the local authority in serving their local communities and assess how they can be measured against the construction project SV performance.

C - The local community in the authority's jurisdiction.

O – The Local Authority.

A - The local authority program investment board.

E- The limitation is the local authority's capabilities.

6.3.5.10 HAS Model I for Controlling (Root Definition and CATWOE Analysis)

Root Definition

A system owned by the private developer and operated by the private developer strategic management team to ensure the all activities of the CPTM model conforms with the different constraints of the project on the construction project named by the key stakeholders of the project which impacts SV delivery (See Figure 65).

CATWOE Elements

T – To achieve the long-term goals of the private developer (owner of the system).

W – Knowing strategic goals for their shareholders towards the local communities and assess how they can be measured against the construction project SV performance.

C - The private developer organisation.

O – The regional local authority.

A - The private developer management team.

E- No limitations known.

This constraints model or the E model for the different CATWOE elements was defined in each model with a different understanding of what can hinder or limit the implementation of SV. Therefore, this model was designed to include the diverse range of constraints in the CPTM model based on inputs from key stakeholders of the project who would impact SV delivery depicted earlier as the clients, main contractors and suppliers.

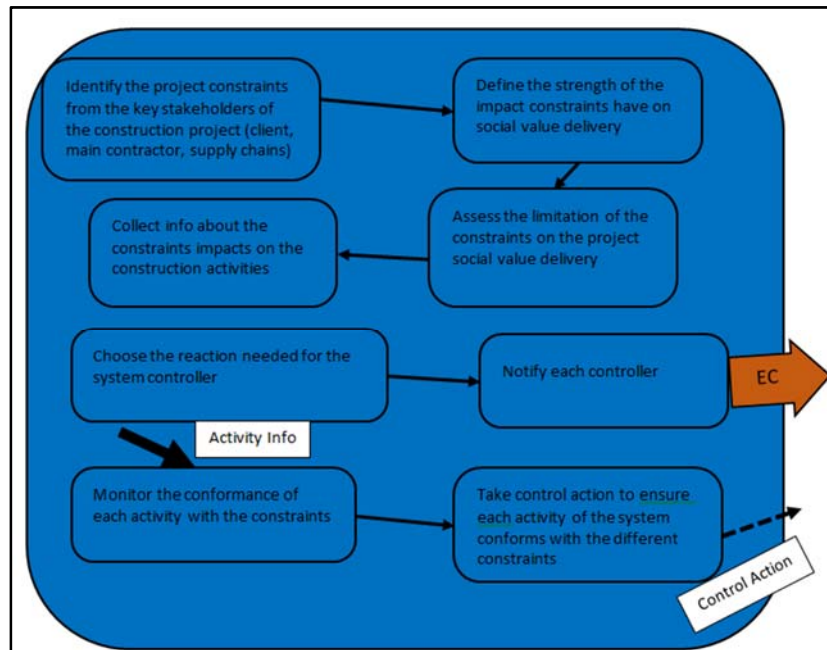


Figure 65 HAS Model I for Controlling Activities (Case Study Two)

6.3.6 SVAZ

A SVAZ (social value activity zone) was produced using the activities from the HAS Models and organised based on the eleven stages of the GDCPP where the activities were classified according to their suitability and time frame. In each of the HAS models in the previous section the activities of each model were classified based on their suitability to a project phase from the Generic Design and Construction Process Protocol (GDCPP) to form a SVAZ for the private developer projects. Figure 66 shows the SV for a local authority procuring a project within a program and what they need to do to achieve optimal SV outcomes. The activities within the zone indicated that the local authority should focus on several improvements resulting from the subsystems. Firstly, the aggregation of demand by the authority and ensuring that their projects are procured as part of a program or that the local authority collaborates with other client organisations and main contractors to bundle their projects which would provide more bargaining power, longevity of duration and flexibility in achieving SV outcomes. Secondly, early and thorough investigation of the local context in terms of supply market capabilities and available opportunities to improve local engagement with suppliers. This action included possible changes in the design options for to suit the local context with activities pointing this out. Finally, the improvement of measuring and reporting SV impact by tier 2 contractors to ensure that they have a competitive edge over other suppliers because they deliver and measure SV outcomes. Figure 66 shows the detailed distribution of the activities across the GDCPP stages.

Pre-Project Phase					Pre-Construction Phase					Construction Phase			Post Completion Phase
(Phase Zero) Demonstration of Need	(Phase One) Conception of Need	(Phase Two) Outline Feasibility	(Phase Three) Substantive Feasibility Study & Outline Financial Authority	Hard Gate 1	(Phase Four) Outline Conceptual Design	(Phase Five) Full Conceptual Design	Hard Gate 2	(Phase Six) Coordinated, Design & Procurement & Full Financial Authority	Hard Gate 3	(Phase Seven) Production Information	(Phase Eight) Construction	Hard Gate 4	(Phase Nine) Operation & Maintenance
	Survey available local construction market suppliers for their capacity		Identify design characteristics (requirements) for local construction projects (program) based on sector		Match local suppliers available with local construction projects design requirements	Develop a framework with minimum social value requirements for construction projects locally	Monitor and take Control Action to ensure client team SV experience & knowledge are improved						
Review social value policies of the local authority during the business case building		Investigate local supply market context (suppliers' capabilities) as a follow-up to Model B	Identify social value outcomes needed to improve the local community's socioeconomic circumstances		Define social value outcomes suitable for the available projects	Select procurement route suitable for the social value required		Add social value requirements to the procurement methods and documents	Monitor and Take control action to ensure social value requirements are added to the procurement methods and documents				
Identify the individuals responsible for task implementation					Identify social value outcomes suitable for proposed construction projects								
Create a tracker with the tasks required for social value implementation			Define generic tasks need to implement social value in the pre-procurement stage			Define generic tasks need to implement social value in the pre-procurement stage		Define generic tasks need to implement social value in the pre-procurement stage			Define generic tasks need to implement social value in the pre-procurement stage		
Track the application of social value implementation tasks				Monitor & Take control action to ensure social value implementation tasks are tracked	Track the application of social value implementation tasks		Monitor & Take control action to ensure social value implementation tasks are tracked	Track the application of social value implementation tasks	Monitor & Take control action to ensure social value implementation tasks are tracked	Track the application of social value implementation tasks		Monitor & Take control action to ensure social value implementation tasks are tracked	
Identify projects from different client which can be aggregated into one pipeline of work		Decide on financial resource needed to provide support for planning the aggregation	Consolidate construction projects into a construction program or work		Plan social value outcomes delivery according to the aggregated construction projects		Monitor and Take control action to ensure social value outcomes delivery is planned according to the aggregated construction projects				Obtain main contractors social value impact measurement reports for construction projects		
		Recruit staff members to manage the aggregated projects as a construction program									Identify the impact of social value delivered by the tier 2 suppliers separately	Take control action to ensure social value impact measurement reports are integrated in tier 2 suppliers' bidding and marketing activities	Articulate social value impact report by tier 2 suppliers to suit their business model
			Identify construction activities which are suitable for educational utilisation			Inform main contractors and tier 2 suppliers about the activities which can be delivered by certain groups in the local community		Recruit individuals from challenged groups in the local community to work on construction program	Monitor and Take control action to ensure individuals from challenged groups are recruited in the local community to work on construction program		Integrate social value impact measurement reports in marketing and bidding activities of tier 2 suppliers		
		Identify challenged groups within the local community who can benefit from construction involvement											
Determine Capabilities needed to deliver the social value activities of the system (Project)				Monitor and take control action to ensure matching skills needed with Personnel capabilities	Determine Capabilities needed to deliver the social value activities of the system (Project)		Monitor and take control action to ensure matching skills needed with Personnel capabilities	Determine Capabilities needed to deliver the social value activities of the system (Project)		Determine Capabilities needed to deliver the social value activities of the system (Project)		Monitor and take control action to ensure matching skills needed with Personnel capabilities	
Determine the skills needed to deliver CPTM activities of the system (Project)					Determine the skills needed to deliver CPTM activities of the system (Project)			Determine the skills needed to deliver CPTM activities of the system (Project)		Determine the skills needed to deliver CPTM activities of the system (Project)			
Match individuals to perform suitable activities					Match individuals to perform suitable activities			Match individuals to perform suitable activities		Match individuals to perform suitable activities			
Define the limitations (Constraints) which go through the whole system				Monitor and take control action to ensure the effectiveness of each activity with the constraints	Define the limitations (Constraints) which go through the whole system		Monitor and take control action to ensure the effectiveness of each activity with the constraints	Define the limitations (Constraints) which go through the whole system		Define the limitations (Constraints) which go through the whole system		Monitor and take control action to ensure the effectiveness of each activity with the constraints	
Assess the impact levels constraints have on all sub-systems					Assess the impact levels constraints have on all sub-systems			Assess the impact levels constraints have on all sub-systems		Assess the impact levels constraints have on all sub-systems			
Choose the reaction needed for each controller					Choose the reaction needed for each controller			Choose the reaction needed for each controller		Choose the reaction needed for each controller			
Notify each controller					Notify each controller			Notify Each Controller		Notify Each Controller			
Identify local authority's strategic long-term goals for the local population		Choose the local authority's long-term goals can be achieved through the construction project to serve their local population		Monitor and take control action to ensure the achievement of the long-term goals throughout the project			Monitor and take control action to ensure the achievement of the long-term goals throughout the project					Monitor and take control action to ensure the achievement of the long-term goals throughout the project	
			Decide how long-term goals can be assessed or measured throughout the project										
			Decide on what are the performance targets to achieve the long-term goals of the client										

Figure 66 SVAZ for Case Study Two

6.3.7 Conclusions of Case Study Two

1. In this case it was clear the role of the client organisation in leading the creation of SV with their ability to clearly define the procurement route and the approach towards their investment program. The organisation's leader played the role of the champion in promoting SV as a core objective and not as a by-product. The client type being a local authority with a procurement portfolio and a community to serve shaped the types of SV outcomes delivered through their projects.
2. The stakeholders influencing the SV delivery process in this case were the client organisation, the main contractors, the tier2 suppliers and the procurement vehicle. The main contractors were utilised optimally by the client organisation where their construction, purchasing and recruiting experiences in delivering SV outcomes to the local community. Tier 2 contractors delivered SV outcomes consistently, through the engagement and guidance provided by the main contractors, which was an improvement from the hit and miss approaches of the previous projects. local populations were at the receiving end of the projects but did not have the needed influence of SV delivery.
3. SV delivery challenges were clear in the case study where the definition challenge was the highest in complexity and required more effort than the two other stages. The definition of SV outcomes to be delivered required the local authority, the procurement vehicles and the main contractors to collaborate between them through exchanging data, ideas and experiences to define suitable outcomes. In addition, the implantation stage was based on the main contractors' leadership, experiences and resources whereas, measuring SV had data collected by the main contractors and reported to the client leader which reflected the importance of the measurement to the client.
4. Factors affecting the project were as those in Chapter five. The strategic procurement decision was the most important factor on the SV outcomes of the project because of the aggregation of demand chosen by the client organisation which enhanced their bargaining power with different parties who influence SV. The decision was made to have multiple projects bundled together which provided the pipeline and work certainty for the main contractors and suppliers to engage in SV delivery. Design and construction characteristics had an impact on SV decision where main contractors were able to utilise design choices and flexibly change it to deliver SV outcomes as a result.
5. The SSM was suitable for the investigation of the project and provided a clear description of reality on how SV was created from different perspectives and why certain behaviours and decisions were done. In addition, the HAS modelling was used to articulate an improvement to the problem situation because it helped project participants to revisit the delivery process and name areas of improvement which were articulated through the CPTM. Finally, the SV provided guidance to the project participants on the stages of the interventions.

6. Socioeconomic natured outcomes were perceived as the SV requirements of the local authority which reflected the influence the nature of the client have on the types of outcomes. Local authorities having to serve and support their local communities are obliged to improve the circumstances of the work force, provide upskilling for them and the local supply chains, training and employment which triggers the socioeconomic requirements.

In conclusion, this case was selected because of the procurement route which was regional and national framework, the type of project being within a programme of projects, the client being public and experienced, the sector being educational and funding being public local money. In this case it was clear that the client organisation understood how to deliver soft outcomes and create value for their organisations and they were able to transfer their vision about the outcomes and values to the main contractors and their supply chains. The choices made around the communication with the supply chains, the utilisation of business units and their information of the local context, the contractors design and construction knowledge which was used to enhance the soft outcomes. Furthermore, the suppliers and grasped what the client organisation and their direct employer the main contractors aimed at achieved and collaborated with them to do so. The framework agreements provided the key stakeholders with the flexibility for them to plan, implement and achieve their goals and produce outcomes collectively and offered them the platform of suitable relationship which in this case was collaborative. Nevertheless, it was recognised that earlier interventions could have improved the outcomes and value creation, where the intervention and understanding the projects context, design characteristics, and local market capabilities could have improved if the stakeholders engaged earlier. Also, the outcomes relied more on the individuals understanding of them than a guided approach by the organisations which could have influenced the outcomes if this guided approach existed. Finally, tracking the outcomes and attempting to commercially quantify them was perceived as a way to justify certain decision and walkaway from the dominant lowest cost culture by the client, the main contractors and the supply chain. These challenges were used to create the SVAZ which included the activities produced by the HAS Models to encourage actors from the key stakeholder organisations to reconsider how they can improve the situation and deal with the challenges. The findings of this case will be further discussed and linked back to the literature in chapter seven discussion section.

6.4 Case Study Three

6.4.1 Case Study Description

Case study 3 is a transportation infrastructure project procured by a private client as part of a development scheme to improve transportation links in the North West of England. The project was in a remote location neighbouring a residential area without a direct link to the residents. The private client applied for a public grant and loan to partially fund the project and the public organisation funding the project was interested in the scheme because it improved the transportation quality for their residents. The client worked across the North West region, owning and operating multiple high value commercial ventures. The client was experienced in procuring and managing commercial ventures which were long-term in nature i.e. continues beyond the construction durations. The client organisation hired a CSR consultancy firm to

manage the social and environmental elements of their business and to advise them on how to best deliver community benefits for their projects.

The project budget was £32 million (£11 million as a grant from a regional regeneration body linked to a regional development scheme with SV outcomes tied to it), a £4 million grant from a local authority and a £15 million loan from the same authority to be paid back after the project completion. The construction started in 2012 and was planned for completion in 2017 though there were delays to the project. The project procurement route was influenced by the funding public organisations which favoured an OJEU 2 stage traditional procurement route. The project required unique engineering experience and skills from the main contractor and the suppliers to deliver the design and construction attributes that would fulfil the client's vision of easing traffic congestion and improving connectivity. The project's engineering characteristics influenced the supply decisions when selecting the main contractor and the supply chain members. Socioeconomic outcomes were delivered as part of the project (with the client and suppliers using other terms to describe it). SV outcomes creation was conducted by the main contractor but was never passed to the downstream suppliers.

The public funders aimed at improving traffic and quality of transport in several boroughs and connecting different commercial schemes to improve employability in local areas by providing long-term opportunities. Public reports on the improvement in traffic and air quality due to reduced congestion and the improved employability provided evidence on the project's benefits.

Nevertheless, there was no evidence on the construction activities' SV outcomes; reporting on the project did not provide any evidence of this. The project's impact (2 apprenticeship opportunities for young individuals) was limited to that project and was not transferred to other projects in the same area where the apprentices completed their duration on the project without anyone tracking their transition either to other companies or schemes. There was no evidence of local purchasing by the client, even the main contractor did not report how much they used local suppliers in the project. The funding organisation reported on the benefits of what the long-term transformation would provide for the area, such as jobs created and developer investment, but did not report on the short-term benefits of constructing the project. This case study was chosen to test the research propositions against the client being private, the finances being a private public mix, the design characteristics being a highly specialised engineering project, the local context being away from any residential area and, finally, the sector being the transportation sector.

6.4.2 Interviewee Profiles

The researcher approached the client organisation, its CSR consultant (to understand the client's approach towards SV), the local authority (which partially funded the project), the main contractor (who carried out the construction work) and 2 tier 2 suppliers employed by the main contractor. The local authority was smaller than other local authorities in this research and delivered a diverse range of construction projects. The funding local authority was greatly affected by the 2008 economic crisis resulting in budget cuts, loss of human resources from their development program and forced them to use consultancies when delivering some

infrastructure projects. The main contractor was a joint venture between two experienced contractors that had worked on a diverse range of infrastructure projects and a track record of delivering apprenticeship and local community engagement events. The first tier 2 supplier was a specialised mechanical contractor, with a large business portfolio nationwide, who had a large factory located away from the construction site and required specific skills aligned with high-tech engineering projects. This supplier had an apprenticeship training programme in the factory and their construction sites which they considered their main community engagement.

The second supplier was an earthwork contractor from the same region with a business portfolio of £4 million annual turnover which had a £1 million contract in this project. This supplier had SV experience in the form of equipment training opportunities in other projects which they delivered when their clients demanded it. Individuals from all the above organisations were interviewed to understand their approach to SV delivery in the project. As with the previous case studies, a homogenous sample was chosen to provide an in-depth study via what the interviewees provided based on their role in their organisations, their relation to the project and their experience with SV. Table 13 shows the profile of each interviewee and their responsibilities in their organisations and within the project.

Organisation	Project Role	Profile and Responsibilities	Abbreviation
Client 1 (Private Developer)	Contracts director of the project	Project Director working for the client organisation for more than 13 years on multiple types of projects dealing with all aspects of a project starting with inception to delivery and handing over to client management teams.	OJ
Client 2 (CSR consultant)	CSR consultant Managing director	Director of the CSR consultancy which dealt with the client's portfolio of projects in terms of the social and environmental impact. The CSR consultant had been working with the client for the last seven years to manage the sustainability aspects of the business.	AB
Local Authority (Funder)	Assistant Director Infrastructure and Programmes	The senior responsible officer from the local authority responsible for the funding and the procurement exercise for the project. This interviewee had previous experience with strategic procurement for infrastructure programmes and was involved in public procurement with successful SV delivery for more than 15 years.	IV
Main Contractor	Contracts and procurement manager	Contracts manager with experience in infrastructure projects and client management. Experience in the transportation projects and working with different types of clients	FJ
Sub-contractor 1 (Specialised Mechanical Supplier)	Project Director	Managing the project M&E works with experience in construction projects. In the last 13 years has been involved in 8 similar contracts including a diverse range of M&E projects in different areas as well.	HL
Sub-contractor 2 (Earth-work supplier)	Contracts Manager	Managing multiple contracts including this one with experience in delivering equipment training opportunities in different types of projects and with a diverse range of clients.	OB

Table 13 Case Study Three Interviewee profiles

The interviews took place while the project was being constructed and the interviewees were doing their roles. The interviewees had extensive experience with construction projects doing their roles but had a diverse range of knowledge about SV.

6.4.3 Intra-Case Analysis

The analysis used pattern matching logic (by comparing the emerging patterns with the ones deduced before the data collection started) and explanation building (by explaining how and why the phenomenon occurred) (Yin, 2014). A hierarchy of themes emerged from the data with three main level themes and subthemes emerging under each main theme. The main themes are shown in Figure 67 as follows:

1. Client led delivery.
2. Factors affecting SV delivery within a project.
3. SV characteristics.

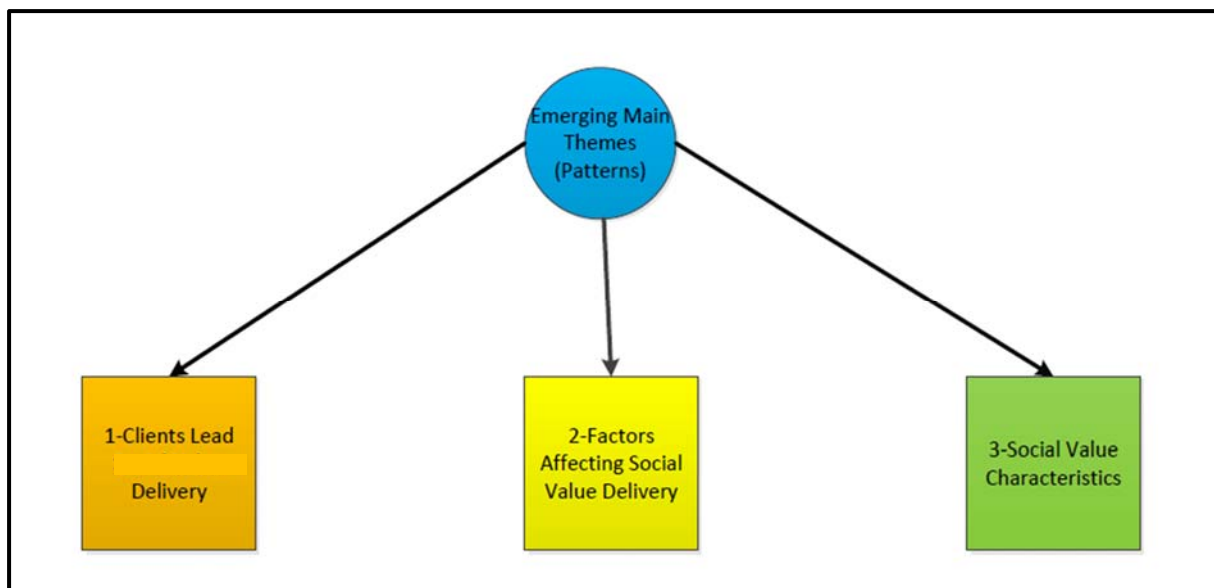


Figure 67 Thematic Analysis Main Themes (Case Study Three)

6.4.3.1 Clients are the leaders of SV delivery

The client organisation's value creation through their projects was influenced by their characteristics and business as a private developer. The way the client communicated their objectives to the stakeholders was affected by the client's business model and perceptions because their approach towards SV was dependent on different public organisations' business models. The client's business, as the owner and operator of residential complexes, shopping malls and commercial ventures, shaped their understanding of SV as being long-term outcomes because their perspective was based on the commercial aspects of their business and not the construction element. The client's hiring of a CSR organisation to assist with their local communities' engagement where they work, had an impact on how they perceive and deliver SV. Figure 68 shows the client's subthemes (constructed through the thematic analysis) which where the client's characteristics.

1. Communicating SV requirements to the key stakeholders of the project.
2. Client organisation type (private developer) & business model
3. Client's market characteristics
4. Hiring a CSR organisation

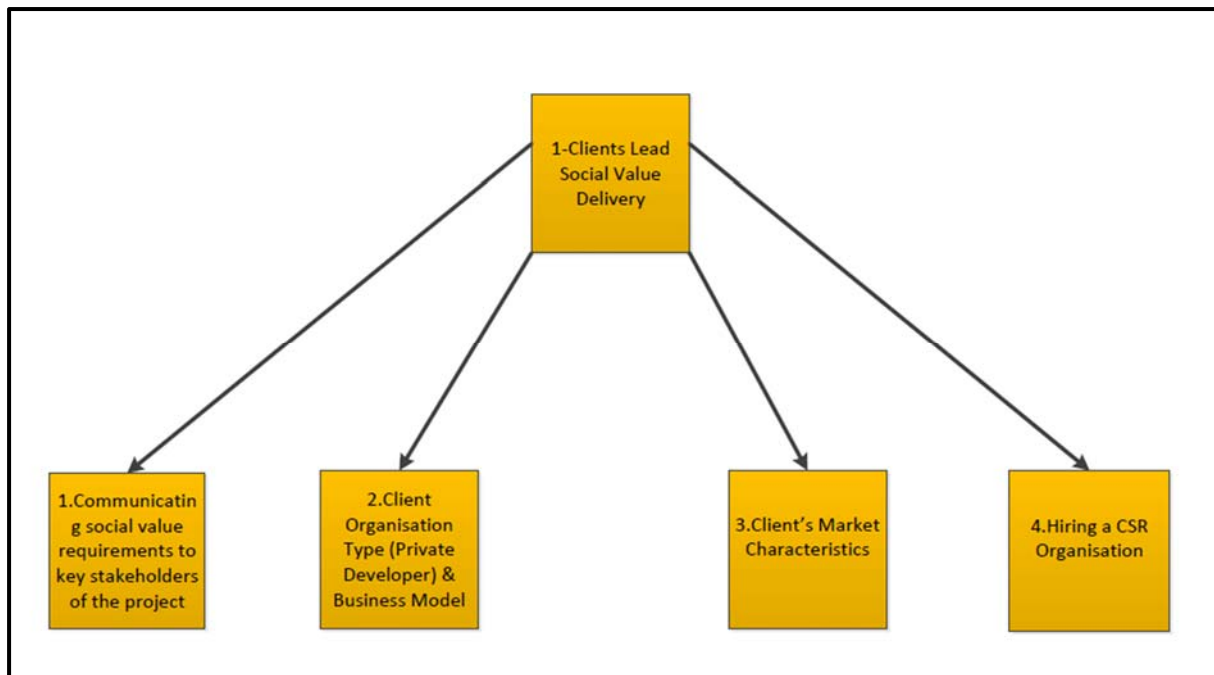


Figure 68 Client led SV Characteristics (Case Study Three)

6.4.3.1.1 *Communicating SV requirements to the key stakeholders of the project*

The client organisation led the communication process with the key stakeholders and set certain targets during the procurement phases where these targets were imposed as conditions by the public funding bodies to create SV. These funding conditions were articulated in the bid document, the contract and tracked through the project as part of the client communication. In this case study, the communication between the client and the stakeholders influenced how SV creation was planned in the project. The stakeholders had different project agendas and thus the communication, led by the client, influenced the way these stakeholders managed their interest in the project. The communication between the client organisation and the main contractor influenced the approach of the main contractor, towards the SV creation. The client investigated the socioeconomic impact of their commercial activities within the communities they work with, but this impact was more about the long-term commercial impact rather than the short-term direct benefit. In this instance, the term SV described what the client's long-term investments could do, in terms of helping communities and local suppliers, which confirmed that SV was communicated as part of the client's business model and not as a philanthropic activity.

The client organisation was responsible for communicating their requirements through the project phases and indicating what was important. They prioritised local jobs and included a training requirement plan which was part of their project as contract terms and thus communicated this to the main contractor who reacted by achieving what was required. Setting KPI targets during the procurement stage triggered the main contractor's response in appreciating the level of importance that the client gave to the SV aspects. This plan was put in place to ensure that the main contractor knew what to deliver against. Additionally, the funding package provided by the local authority had SV requirements linked to the procurement process, which the client followed and communicated to their main contractor. Nevertheless, there was a view that the communication quality could have been better because

there were challenges regarding what the client defined and requested as SV. For example, the words ‘tick box’ was used by a client interviewee to explain how the procedure was perceived in the client organisation which reduces SV importance to be just a tick box exercise. The client perceived SV as a tick box exercise because they assumed that, by procuring contractors with good SV creation track records, the contractors would automatically deliver SV outcomes as it is built within their business performance, which negates what clients proactively do to deliver SV.

Finally, the communication did not go beyond the main contractor to the second tier of suppliers further down the supply chain. The suppliers did not receive or engage with the client’s requirements which changed the potential addition that these suppliers could have made. Furthermore, the main contractor did not transfer the requirements of the client to the suppliers because they already delivered the outcomes themselves and were not encouraged to exceed expectation and increase the outcomes. The suppliers mentioned that, in other projects, clients’ messages were clear enough for them to deliver SV as part of their scope whereby the clients held them responsible for the delivery of certain outcomes and the suppliers complied. In this project, there was no communication between the client and any supplier beyond the main contractor.

6.4.3.1.2 Client Organisation Type (Private Developer) & Business Model

The client’s business model was another element which influenced the project’s SV outcomes because the client was a private developer with a large investment portfolio and the client creates long term socioeconomic benefits for the local communities in the areas they work in. The client’s model as a developer, targeted less developed areas with strategic plans to transform these areas into revenue pots for the company which triggers long term economic cycles for the local communities. The client’s business model included knowledge and experience about creating long term socioeconomic impacts but neglected the short-term outcomes of construction, especially when the projects were short in terms of construction time. As a private organisation, the client had more options to choose from in terms of creating value in the way they see fit for their developments, because they did not follow national or continental regulations, neither did they have to deal with public accountability/scrutiny.

The client was committed to their shareholders who understood the role their investment played within local communities. The client’s procurement approach was based on the delivery of their objectives where they chose suppliers who served these objectives without following public procurement routes. They directly allocated work to contractors with a good track record according to their requirements without having to deal with political demands, in public projects. Furthermore, the SV created from this case study client’s perspective was long term in nature which is what the client’s business model instilled. The client was more interested in the long-term benefits because they focused on the long term benefits they created for local communities. The client was a land owner and they developed investment projects that lead to long-term vision and an approach towards creating a legacy for local communities. Finally, the client’s business approach towards SV was not common to that of other private clients and their choices of engagement with the communities they deal with. This would mean that the client could not compare their model to other organisations.

6.4.3.1.3 Client's Market Characteristics

The characteristics of the market in which the client worked influenced the SV outcomes being delivered whereby working as a private developer had an impact on the organisation's methods of engagement with the immediate communities. As a private developer, negative publicity was part of the development business and market, which the client dealt with through creating positive benefits which were viewed by local communities to have an acceptable business image. In terms of the long-term aspects of the client business, the client's commercial ventures were directly engaged with their communities from a long-term point of view. How the client is perceived by the local communities created pressure on the client's SV strategic development and how it was embedded in their business model, resulting in the client having certain views about delivering SV.

The client's commercial ventures varied across a wide spectrum of markets whereby these ventures created different types of benefits for different local communities. These ventures utilise infrastructure projects to link these entities together which were considered complementary services for the main commercial ventures which are used to support local communities and improve local wellbeing. Hence, this project was developed as an enabler for multiple ventures across different geographic areas. This project was an unusual investment decision being a transportation infrastructure for a private organisation which was challenging for the client and the market they work in. Finally, the client was on the same level of engagement with SV as was the local authorities they worked with on other developments, whereby the client organisation had shared the same mind set as the local authority when it came to community engagement, but the client and the funding local authority were different when it came to duration of the benefits.

6.4.3.1.4 Hiring a CSR Organisation

The client employed a CSR organisation as part of their strategy to plan SV engagement and to improve how community benefits are created throughout their business. Because of the client's business model, the CSR organisation was working towards improving how SV was being reported and displayed but did not interfere with how SV was perceived and managed. The CSR organisation reported back to the client about the quantifiable outcomes collected internally to back up the investment decisions undertaken by the client and to justify local engagement decisions without providing an improved perspective on how SV outcomes could be managed.

6.4.3.2 Factors Affecting SV Delivery within the Project

This construction project had factors which affected its performance and the achievement of its core objectives (which includes SV when it is being pursued as part of the strategic objectives of a project). These factors emerged through the literature and were amended through the patterns developed from an analysis of the interview transcripts. These factors are in the sections below and are also shown in Figure 69 below:

1. Funding source of the construction project
2. Construction and design characteristics
3. Local context (project without a specific local population to serve)

4. Strategic procurement route
5. Response of main contractor
6. Supply chain response
7. Time of engagement with SV in the project.

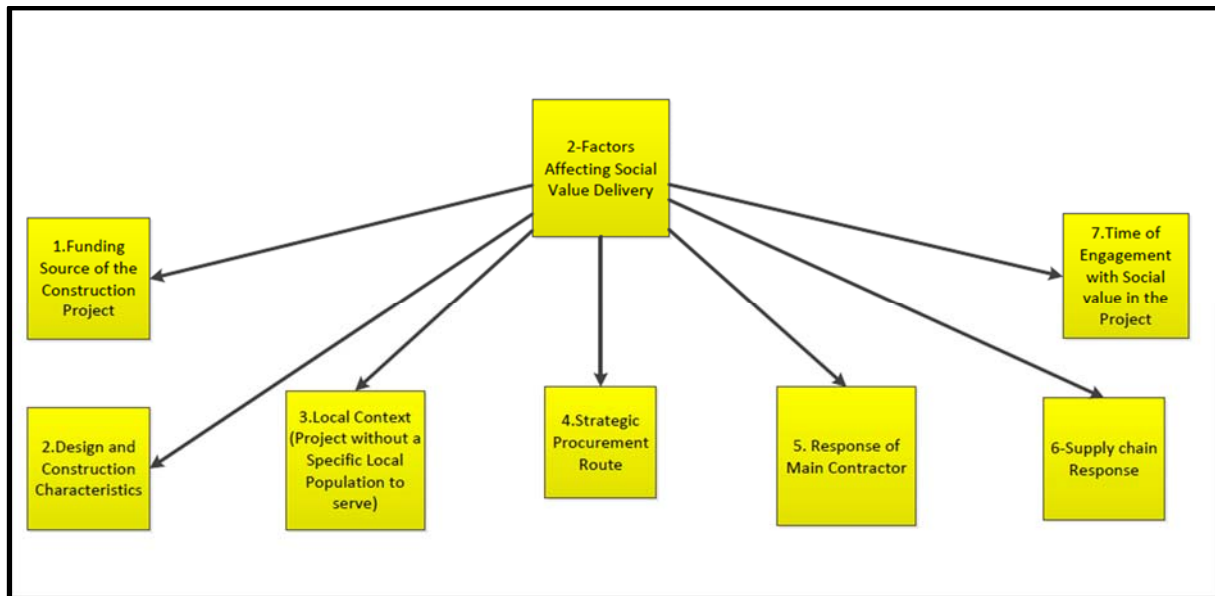


Figure 69 Factors Affecting SV Delivery within the Construction Project (Case Study Three)

6.4.3.2.1 *Funding Source of the Construction Project*

Funding sources and structure influenced the project outcomes, the procurement route and approach. Because the project had multiple sources of funding, which included a public loan, a regeneration grant and private investment, the client's SV choices went through the same justification procedure as a publicly funded project would go through for scrutiny and accountability. Other projects funded purely by the client would have been less inclined to deliver SV outcomes even if the CSR consultant was involved.

The project's mixed funding scheme triggered demands for SV outcomes to be delivered, as part of the local authority's loan and the regeneration grant requirements, by the client which created a lever for the public bodies involved in the funding to support their vision of SV. With this lever in place, the client shared the same vision about the project as the public funders to create SV, whereby the client had the drive to deliver benefits to the local communities. Based on the public funder interviewee, the client had the same view about SV as the public body, so if the project was privately funded it would deliver SV as well. The public loan and grant had mandatory socioeconomic conditions in the form of apprenticeships and local jobs to be delivered which client delegated to the main contractor through the contract agreement they had to fulfil.

In addition, the public funders influenced the procurement route chosen for the project because the project had to be compliant with the OJEU rules and regulations whereas, this would not have been the case if it was not for the public money. Nevertheless, despite the public money funding the project and the SV requirements linked to that funding, these requirements did not

clarify to what extent the client should have engaged with SV. To clarify, the client's CSR consultant could not name the exact SV KPIs or benchmarks they should have delivered, and be measured, against. As part of the client's business model in different types of projects, where the local area was clearly defined, the client had projects which were privately funded yet delivered outcomes relevant what SV was perceived to be.

6.4.3.2.2 Construction and Design Characteristics

Construction and design characteristics can influence SV creation for any project depending on how they are utilised and if they are included as a component in SV creation. Accordingly, this project had a unique set of design and construction characteristics because of it being a mechanical bridge and a road which required specialised suppliers. The client did not deliver such specialised projects previously which challenged the client on many levels, particularly SV. The project design and construction characteristics were highly technical (an engineering infrastructure scheme) when compared to other sectors, such as housing or educational builds, and this limited the ability to break down the work packages into generic and semi-skilled trades. As a result, the client viewed end user service satisfaction as the project's added value. Public bodies delivering road projects have the same approach towards SV viewing it as pertaining to end user satisfaction rather than as construction activity outcomes, which explains how the SV outcomes for a road bridge were considered limited.

The project had large engineering outputs to deliver, which local contractors could not deliver. Attempting to create SV through buying locally or naming a local workforce with enough experience to deliver the specialised construction activities was viewed as a challenge. However, during procurement this challenge was understood as providing opportunities to up-skill local suppliers to deliver complex engineering work through investigating the local supply capacity which would boost the SV delivery. The argument behind choosing the main contractor was because they were competent in engineering and could provide a technically innovative construction method for the bridge. Thus, the main contractor did not deskilling the project to create more outcomes. This argument was challenged by an alternative point of view which advised the deskilling of the construction activities and having a more traditional construction approach to produce as much local market engagement as possible. However, the project team during procurement rejected this point of view because from the point of view delivering innovative solutions would improve local suppliers' experience and their ability to compete in other areas whereas a deskilling project would have prevented the suppliers learning from the experience and up-skilling their workforce.

The main contractor did procure locally as much as possible, even for the specialist contractors after breaking down the construction elements of the project. Concrete work was broken down into packages where some of them, despite being linked to the specialised work, were procured from local suppliers with generic experiences and skills. It was economically viable for the main contractor to buy locally because it reduced transportation cost, eased logistics' management and handling, and lowered the carbon footprint. Nevertheless, the main contractor procured based on technical capabilities despite higher cost because of the design requirements. The main contractor needed to investigate and put in resources to understand the local supply

market and procure locally. Some generic packages were adjusted to suit local suppliers' capabilities while guaranteeing that the quality was not compromised.

The specialist contractor did not deskill the work and hire a semiskilled workforce from the local area who did not have the required experience. Internal insurance and safety requirements prevented the mechanical contractor from hiring people locally because of certain requirements such as unique safety knowledge which would have required long hours of training that would not have been viable to deliver. However, the ground works sub-contractor was able to create, when required to by the main contractors on other projects, SV outcomes for the local workforce whereby the service they provided, and their business model could accommodate hiring and training the local workforce even if they did not have previous experience.

6.4.3.2.3 Local Context (*Project without a Specific Local Population to Serve*)

The local context of a project impacted the engagement with local community and businesses it interacted with, through the SV it created. When creating value to a specific local community, defined geographically, it must be known to make sure they are included in the planning. Nevertheless, this project was procured without knowing the local population and their needs and benefits because of the limited experience and knowledge of the private client without regeneration and education business units which exist in a public client organisation. Private organisations report to shareholders whereas public clients procure construction projects with local populations in mind when creating value. In this case, the project was constructed away from populated areas and thus had very little impact on the communities close by in terms of the impact of the created Value.

The client in this case study procures projects, as part of a massive number of assets, to serve their business commercially (which spans across multiple areas and serves more than one community). As a result, the organisation collaborates with multiple public local authorities for every project they procure whereby the local authorities have, relatively, an equal influence on the project. Hence, in this case there was no authority which could claim that the project would serve their population. Moreover, the project was a transportation infrastructure between different areas designed to ease traffic congestion spread across different authorities. The project had a low profile because of its location, private funding and its shared benefits between different public bodies. It did not have the same scrutiny that a public project would have. Usually the way main contractors engage with local suppliers requires having a specific area to focus their efforts upon in order to know suitable businesses which can take part in their projects with economic viability. This requires investigation which might be a challenging exercise when applied to a project which is shared between different local populations. Suppliers (sub-contractors) utilised for this job had previously engaged with local communities, if not for SV specifically, they had had to deal with a predefined local community which they would liaise with to manage the site and construction activity. But for this project they did not engage on the same level, because, firstly, the project was in a relatively remote location and, secondly, there was a lack of guidance from the client and main contractor on which local communities they should approach.

6.4.3.2.4 Strategic Procurement Route

Strategic procurement choices influenced SV outcome processes based on the client's definition of their needs in the contract requirements. Accordingly, this project was OJEU procured because of the public money included in the project whereby the public parties had compulsory social benefits to be achieved. Targeted training and apprenticeships were included in the procurement procedures through the PQQs and ITTs which included apprenticeship requirements. The client used the PQQs and the ITTs to shift the SV creation requirements to their main contractor which were the client's way of achieving these requirements. The traditional procurement approach was a suitable choice bearing in mind the project engineering characteristics and the client's experience, whereas other types of procurement choices (such as framework agreements) were unsuitable for the project because of its one-off nature.

Projects procured through frameworks require a large pipeline of work and resources to manage them, which was not available to the client in this case. The client organisation did not have the continuous flow of projects to procure through framework agreements which would have served the commercial benefits of the organisation and thus could not use frameworks even though they have better track records when creating value adding outcomes. SV requirements were cascaded down to the main contractor whereby several apprenticeships and a percentage of local purchasing (several KPIs represented the results) were included in the contract. This was a big incentive for the main contractor to deliver the requirements of the client; to comply with their requirements of being OJEU compliant was a powerful tool to provide the balance between SV and commercial benefits.

6.4.3.2.5 Response of the Main Contractor

The main contractor's response to the client's SV requirements and communication to the suppliers influenced the project's SV. The main contractor in this case study adopted the Considerate Construction Scheme, a scheme devised to improve how the industry is perceived and to deliver community benefits where the scheme is the communication interface between the main contractor and the local community. Despite the engagement with local communities and local youth (with the latter through the apprenticeship scheme) the main contractor had a generic approach towards SV. There was no mention of any plans and choices made by the client which were then transferred down the supply chain for suppliers to pursue. The main contractor did not have an approach towards assigning apprenticeships and/or job creation where their KPIs did not cover these requirements, which is why the main contractor's SV approach seemed generic. The main contractor did not develop or cascade any outcomes to the suppliers despite the client having a SV and a community engagement strategy.

The main contractor did not transfer the client's SV requirements downstream in the supply chain and the client did not follow up on this either. The main contractor only reported on the benefits they delivered to fulfil the contractual requirements made by the client and they did not include suppliers in the delivery of them. In addition, they did not improve their suppliers' SV engagement and delivery. The main contractor relied on supplier mechanisms and initiatives to hire a local workforce and engage with the local community, because as they fulfilled their recruitment goals from their contractual obligations towards the client, there was no urgency to encourage the suppliers' engagement in SV creation. The two suppliers

interviewed by the researcher (and nominated by the main contractor) stated that the main contractor did not demand or negotiate any type of SV outcomes from them. Despite that the suppliers mentioned that, because of the size of the contract, they would have considered and probably have delivered any SV the main contractor would have demanded formally through the contracts or informally through word of mouth. The suppliers could not name a method by which the main contractors had communicated with them and understood their capabilities to deliver SV.

6.4.3.2.6 Supply Chain Response

On other projects, both suppliers working on this project responded positively to their main contractors' requirements and communications regarding SV outcomes. These suppliers were triggered by other client requirements, formally through contractual demands or informally through lip service where the rigour and certainty of the main contractors shaped how these suppliers reacted. These suppliers' strength and capabilities enabled other main contractors to create SV outcomes on other projects by encouraging them to engage with local communities, making SV rely on the main contractors' demands. In this case study, the contract between the main contractor and the suppliers defined these supplier's goals which should have been used as a platform to develop a collaborative relation between the main contractor and the suppliers. However, the main contractor did not develop a collaborative relationship with these suppliers which eliminated the possibility of the suppliers' creating any SV outcomes to the local community.

The interviewed suppliers offered training opportunities or apprenticeship schemes to the local population resulting in socioeconomic outcomes for the variance of their businesses. The first supplier, being specialised in heavy mechanical systems, had an apprenticeship programme which provided trainees with specific skills and the other contractor provided a more generic training programme for equipment operators. The second supplier was an earthwork contractor which trained local residents as machine operators and provided them with opportunities to get back into the employment market. Both suppliers engage with SV delivery generally because ethically they felt that providing benefits to the communities where they work and thrive was part of their responsibility and both suppliers benefitted from hiring apprentices and training the workforce because of the skills gap, which impacts their commercial ability. Hence, both ethically and business-wise, suppliers' SV creation benefitted them; however, in this project, the suppliers were not asked to deliver any form of SV outcomes since the requirements were already delivered by the main contractor. Both suppliers had previous experience of responding to the demands for SV and community benefits by main contractors in different projects where they were able to deliver what was asked of them.

The suppliers' business models depended on their market and their specialisation which is defined by whether they have a niche market or whether they deliver generic services. The first supplier provided specialised work and thus required a unique skill set, which might not be available in every workforce. On the other hand, the second supplier was a generic contractor making a semi-skilled workforce employable from the local areas which created opportunities for a diverse range of individuals.

Despite the opposite types of business models of the suppliers in this project, they engaged previously in delivering different types and forms of community benefits, local job creation and local purchasing, because it was economically more viable for these suppliers to buy local material and hire local people. The suppliers hired locally to reduce transportation costs and duration and used local suppliers to reduce their carbon footprint and their overall material costs. In addition, the demands and requirements made by the main contractor and the volume of work offered by them impacted upon the compliance of the suppliers with the requirements made by the main contractor and the immediate outcomes of SV. The suppliers could not influence SV outcomes delivered through their own suppliers or further down the supply chain because these suppliers further down the chain were either national level companies at which there is not enough bargaining power, or they were very small companies which could not sustain financially different types of apprentices, training or hiring.

6.4.3.2.7 Time of Engagement with SV in the Project

The main contractor interviewee complained about the lack of time to plan SV and having to rush into site without having enough time for such planning which influenced SV planning and creation. They argued that time to investigate the local context, plan suppliers' engagement and choose suitable local community benefits was limited and required improvement to deliver optimal results. On other projects the time available to investigate environmental outcomes was longer compared to the time available to investigate SV because environmental outcomes were clearer than SV outcomes. The subcontractors on this project needed more time to plan SV outcomes but they did not have enough time to plan their needs and align them with their capabilities. The client spent a lot of the time before construction started to improve the commercial profile of the project and spent less time on SV, thus resulting in a lack of time and rushing into construction without proper planning. Timing was mentioned by just two interviewees and it was clear that for this project there was not enough time given to the planning of SV since it was not depicted by the parties responsible for planning the project in the pre-procurement and procurement phases (whereby they did not know the importance of early engagement and planning of SV and when exactly SV should start).

6.4.3.3 SV Characteristics

For each project, tangible SV outcomes have specific characteristics which are influenced by the project and/or the client attributes. In this project, the characteristics were mainly influenced by the client's business ventures and the long-term revenue they aim to achieve through their projects. The following sections show the attributes of the SV developed and produced through the project. Figure 70 shows the different subthemes emerging from the transcripts of the analysis as follows:

1. SV time frame (long term benefits)
2. The nature of SV outcomes
3. Assessing SV outcomes
4. SV progress and learning curve improvement.

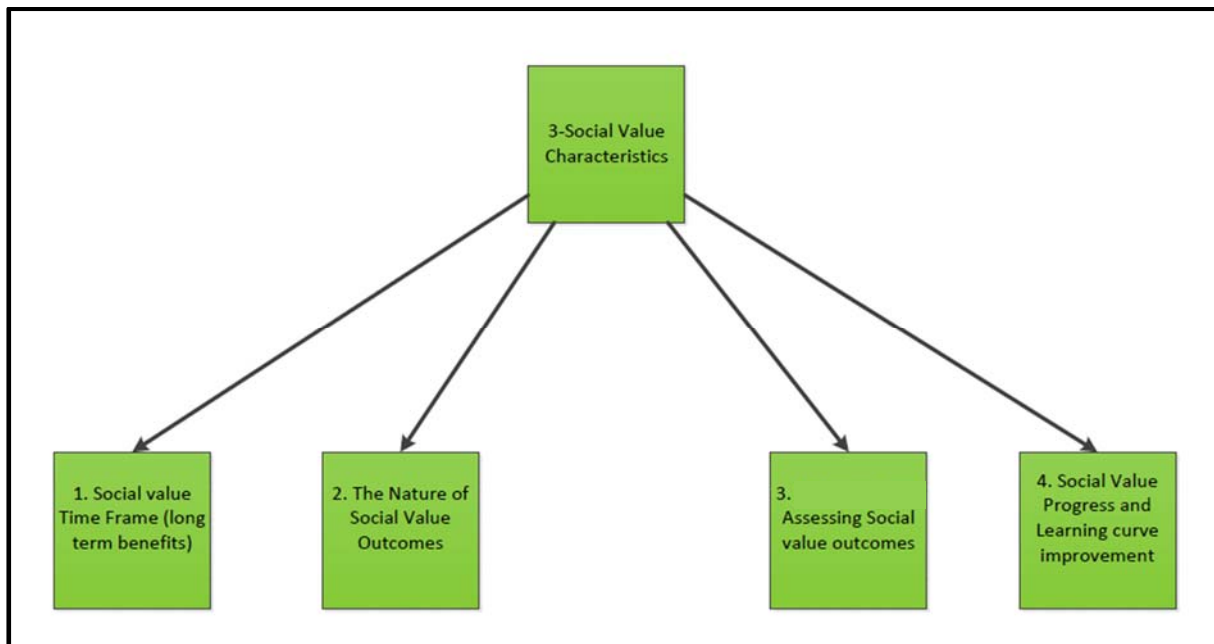


Figure 70 SV Characteristics (Case Study Three)

6.4.3.3.1 *SV Time Frame (Long Term Benefits)*

In this case, the client characteristics as a private client gave them a different understanding of what their SV is. The duration of SV impact on the local communities lasts a long time in the client's commercial business, compared to construction SV impact. The client procures and operates commercial projects from inception to dismantling to generate as much profit as possible for the shareholders. This gives the client a different perspective on SV than public clients, because the client generates SV measure benefits that exceed the construction duration by default. The client creates local jobs and long term local engagement which improves the communities surrounding their projects and simultaneously increases their revenue. Accordingly, the client creates outcomes and benefits which are longer than the initial duration of the construction activities, by default, with full-time jobs among the SV outcomes initiated by the client; such outcomes are treated as targets by the public authorities working and/or collaborating with the client.

The client has 20 years' experience of business strategies which take into consideration the socioeconomic and environmental impact of the business on local communities where the client's vision includes how these local communities would likely be economically, socially and environmentally after they invest. The client's engagement with the communities over long durations creates a sense of ownership with the local population which helps these business ventures to thrive. People in local communities appreciate the existence of the client's commercial projects because of the opportunities such projects offer. Hence, local communities accepted and appreciated the client's existence in their areas and the positive impacts of their engagement and investment decisions which extended beyond the construction duration.

The public grant had several permanent jobs attached to the scheme which continued beyond the construction because the public lender saw that having full time jobs instead of temporary construction jobs, delivered through the project, was more impactful. The creation of full-time jobs was the SV outcomes which left a greater impact on the local communities than temporary

outcomes which construction creates. Nevertheless, in delivering these the client missed the opportunities of creating temporary outcomes through the construction activities.

6.4.3.3.2 The Nature of SV Outcomes

The nature of SV outcomes being of a socioeconomic nature was influenced by the client's and not the project's characteristics because the client's business model influenced the nature of SV outcomes they created. Most of this project's SV outcomes were non-socioeconomic because as a transportation infrastructure project which were; firstly, environmental benefits such as green areas for the local community to give them a sense of ownership of the project where this approach, to deliver green areas, was adopted by the client in previous schemes. Secondly, non-socioeconomic outcomes in the form of creating new cycle lanes within the local area which improved cyclists' experience across different areas around the project. Thirdly, diverting traffic from close residential areas and improving the air quality was considered non-socioeconomic benefits by the client and the public funders. The public funders funded the project to reduce traffic congestion and the number of vehicles going through the residential areas which the project delivered. Finally, local schools' site visits were, according to the main contractor beliefs, SV outcomes which influenced the local community through engaging with as many students as possible, reducing the project's vandalism and anonymity and improved public acceptance of the construction activities. The suppliers confirmed that they had delivered these types of non-socioeconomic benefits to local communities in other projects.

The challenge regarding these non-socioeconomic outcomes of the project was the difficulty in quantifying them because it is difficult to calculate accurately the magnitude of the impact. However, there was an argument that these non-socioeconomic benefits benefitted local communities, thus justifying the decisions to invest in them. Furthermore, the client created some socioeconomic SV outcomes in the form of local spend and local employment as part of the project goals of through buying and hiring locally. The client differentiated between specialist trades and construction activities which could reduce local labour and local spend and generic trades which support a semi-skilled workforce. The public funders were interested in analysing the workforce origins and the purchasing profile throughout the duration of the construction to ensure they fulfilled the project's SV funding requirement of the employment opportunities. The main contractor thought that hiring from the local workforce would be the default choice of the project because of the reduced transportation time for the employees and materials and easy access to site.

The suppliers stated that they hired from the local workforce, on other schemes, but they do it as part of their default business model which is different from the client's or the main contractor's reasons. They hire and train the workforce as part of such a scheme whereby the workforce might gain the opportunity to gain employment (because of the experience and training they get) from other suppliers when their current work project is done. The client and the contractor felt it was important to hire local suppliers, although they also had to hire national contractors for an amount of specialised work within the project as suppliers able to undertake such specialised work were not available locally. To achieve this objective, the main contractor

had to investigate the local context and the available suppliers and then align the project requirements with some of the local suppliers that were available to achieve optimum results.

6.4.3.3.3 Assessing SV Outcomes

Assessing the impact of SV for the client was influenced by the long-term vision they had for their projects, but they did not have standard KPIs to measure performance against construction activities. The client employed a CSR consultant to assist them in reporting the outcomes of their projects to their shareholders and the communities where they operate. The aim of reporting the outcomes was to improve how their company looks to communities wherein the benefits they created increased the acceptance of communities towards their business ventures. The client always engaged with their communities because they create long term employment opportunities and improve neighbourhood conditions and surroundings. However, they were not used to demonstrating or reporting these benefits outside their organisation, thus creating a general lack of understanding and vagueness about what benefits they were creating.

Their data collection mechanism tracked the long-term impact of the client's commercial activities with durations longer than construction activities where the long-term jobs were tracked and measured. The client produced reports displaying the jobs created by the construction project and the suppliers' engagement within the local community. However, their resources for reporting and measuring were focused on the full-time jobs created through the lifecycle duration of the project and not just through the construction activities. Their consultant would create the projected numbers of what the long-term jobs and benefits would be.

Within this project, the client had the main contractor collect data about the project's performance and send a monthly report about their SV performance. This was sent to the CSR consultant and reported on the impact by the client's project on the local community. As for suppliers, since they were not involved with the SV creation directly, they were not asked to track their SV outcomes or what they had created. However, the suppliers had previous experience within other projects about reporting and tracking data about SV creation.

6.4.3.3.4 SV Progress and Learning Curve Improvement

The client organisation, the main contractor and the suppliers had gone through the process of improving their experience and understanding of SV based on their business model and the market's operations. All these organisations made changes to their SV delivery performance because increased experience and the progress of performance builds up over time. They understood that SV moved on from being a philanthropic activity to be a core organisational strategic objective. The public lending organisation had learned from previous experience and improved their SV delivery performance over a long period of time delivering a diverse range of projects within their local areas. Even the terminology used evolved over time, from one term to another until it became known as SV.

The client organisation interviewees agreed that they could learn from their suppliers and that they were open to suggestions or new methods on how to implement SV and deliver community benefits. From the multiple PQQ and the ITT documents, the contractors can provide a diverse range of innovative solutions for SV which is where a client can improve their experience of SV. Accordingly, the inclusion of SV as core objectives in projects by different clients

improved suppliers' experience with it. The suppliers mentioned that the capability of main contractors had evolved due to the different range of experiences they had gained from clients demanding SV outcomes amongst the core objectives for their construction projects. In conclusion, SV is continuing to improve and to be demanded by clients who are getting better at gaining experience from their projects and dealing with the different entities aiming at creating SV.

6.4.4 Case Three Rich Picture

A rich picture was developed to describe the SV situation and how the project was depicted from the points of view of the key stakeholders involved in the planning, managing and delivering of the project. Figure 71 shows the rich picture which describes the relationship between the client organisation and its objectives, the local communities they dealt with through their business, the local authority with their objectives and where these objectives fall within the client and the local authority.

The client procured the project to improve the connectivity between their commercial ventures and create opportunities for new businesses to increase their revenue. The client's business model as a private developer impacted how they managed and delivered SV. Because the client's ventures are embedded in local communities for long durations, they created long-term SV on a basis such as employment in the ventures. Hence, the client's business model perceived SV as outcomes which exceed the initial duration of construction activities. The client aimed at delivering SV outcomes to improve how they were viewed by local communities and to dissipate any negative views about their business. As a result, the client does not have a consistent mechanism to deliver SV outcomes as part of construction activities because their focus was on a long-term engagement with local communities and markets.

To serve the client's commercial strategy, the project was centred between multiple local areas and their communities as a transportation infrastructure to connect different ventures, thus there was a lack of ownership by any of the local communities towards the project. The context of the project did not include a certain community that was attached and to which SV outcomes could be delivered, through the construction activities, to solve certain social needs. The client did not investigate SV outcomes suitable for local contexts because they did not engage public accountability. In addition, the engineering-based design and construction characteristics limited the ability to create opportunities for local employment and purchase without a more thorough investigation than that which was present in this project.

Moreover, the public organisation, which partially funded the project, had an impact on both the project and the outcome, but it created short comings in terms of SV. By putting public money into the project, the public organisation created an opportunity to create SV outcomes linked to the project and its construction output. To a certain level the public lender did have local context information but not over all the areas and communities being impacted upon by the project. The public organisation tends to develop their requirements based on the local context but they could not develop a full plan for four different areas and their communities. The client responded by including some sort of SV requirements in the contract which were

passed down to the main contractor but did not explore optimal results and outcomes which could have served local issues.

The main contractor responded to the SV requirements transferred from the public lender to the client by delivering the number of apprentices required by the client. The main contractor had experience of SV outcomes, but the SV requirements did not offer any magnitude to explore any more of the main contractor's experience and ability to diversify the SV outcome delivery. Therefore, the main contractor's team did not transfer these SV requirements downstream in the supply chain to the suppliers because the generic requirements were fulfilled within the first tier of the supply chain. Despite the capabilities of the suppliers in delivering SV outcomes in other projects, the main contractor did not utilise their capabilities which was due to the generic requirements of the client. Finally, the suppliers were also isolated from taking part in SV outcomes whereby the requirements of the client were not transferred downstream in the supply chain to the suppliers.

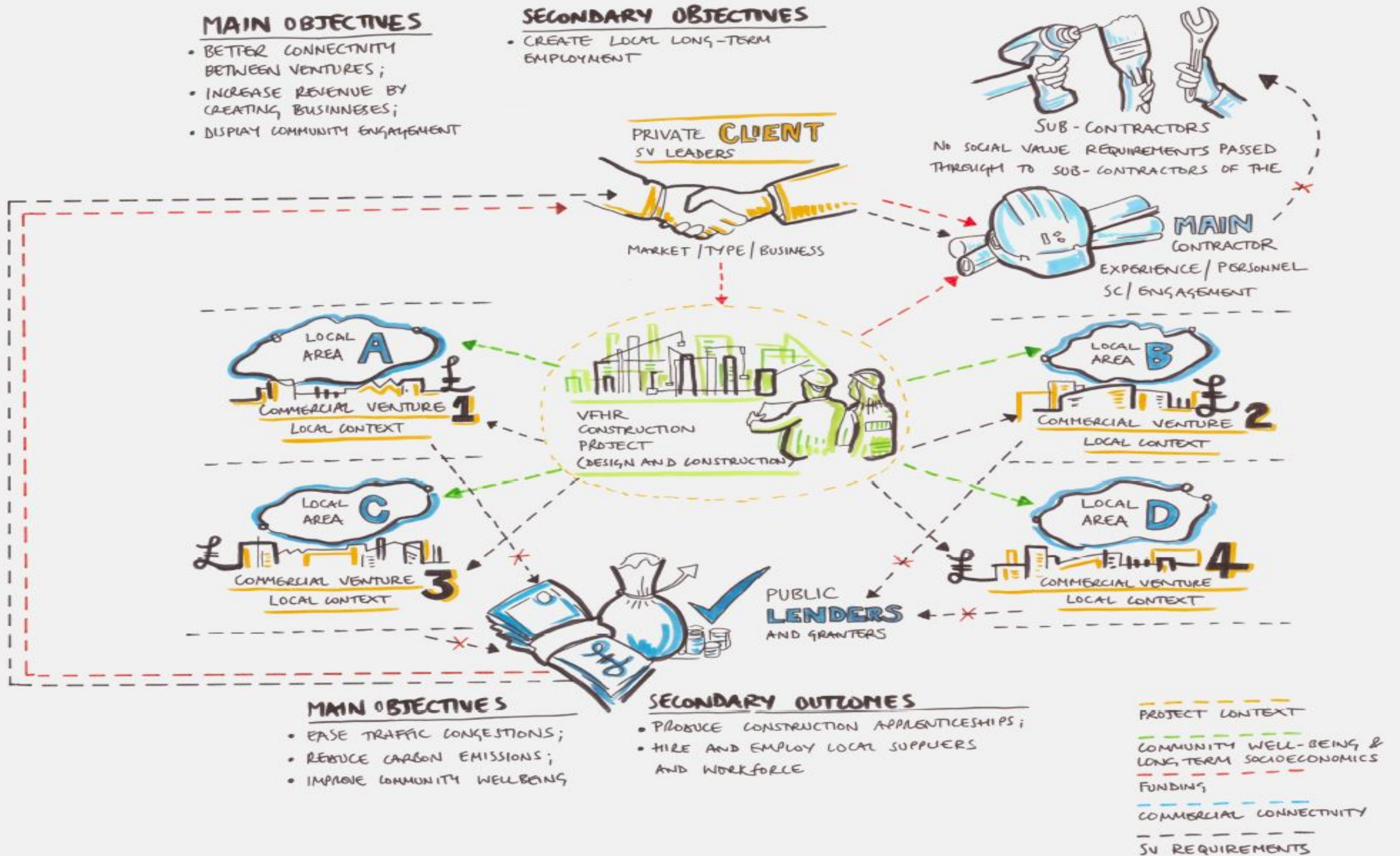


Figure 71 Case Study Three Rich Picture

6.4.5 CPTM and HAS models

The interview questions designed to develop HAS models were analysed in the following sections to show how the researcher designed a unified CPTM and its subsystems for the (HAS) models. Each improvement perceived from the data was transformed into a subsystem within the CPTM.

Improvement Model A: aims to maintain a systems structure - this improvement names the personnel and staff members needed to carry out all the systems activities and match their skills with the requirements of these activities. The limitation for this improvement model is the human resources.

Improvement Model B aims at increasing the SV outcomes of the projects developed by the client through improving the client's project pipeline visibility to their internal staff to create a Lean approach towards SV delivery. This improvement will reduce the existing silo mentality in different departments of the organisation and introduce an integrated approach in the organisation through cascading the strategic SV objectives to midlevel managers in the organisation. Getting further down their organisational hierarchy improves the communication about the SV message and increases the input from different levels about how these strategic objectives can be achieved. The internal staff of the organisation will benefit from that improvement because they will be able to view the full picture about the organisation's SV and thus they can engage better in the delivery process. The limitations of the improvement would be the available resources of the organisation for the planning departments to produce the pipeline and improve its visibility to the internal staff members.

Improvement Model C aims at improving the understanding of the private client with the short-term benefits of having construction projects, and thus utilise the potentials of what their projects can achieve, in terms of benefits during construction phases. By building a knowledge base from different main contractors and their suppliers about how they delivered public construction projects and the SV engagement, the private developer is improving the SV outcomes of any construction activities they deliver - which are large. The understanding of the SV resulting from construction activities seemed to be missing from the internal staff of the client organisation which is why this improvement will provide them with the perspective they need to utilise their construction activities. The limitation to this improvement is how suitable the projects are to the SV outcomes the client organisation has the knowledge base about. Also, the limitation of the improvement was the suitability of the local context to the application of the known benefits.

Improvement Model D aims at naming outcomes which can be delivered through the construction activities and duration which would increase the overall benefits of construction projects procured by the private client with a long-term perspective about SV. Clients that develop a detailed delivery plan of a construction project would have already included their vision in their processes and so there is a great opportunity that might have been missed in terms of the inclusion of construction SV outcomes in their developments. Accordingly, early

investigation with local community agencies, which have knowledge about the local needs, can help to improve how the private client views SV outcomes and include them as early as possible in project planning. Usually, similar public infrastructure projects have a wider range of stakeholders who can benefit from the project and public clients can name key stakeholders and manage their influence on the project, which is what this improvement encourages private clients to do. This improvement is initiated by a champion from the client organisation with the political power to influence the development process.

Improvement Model E aims at improving the local supply market engagement through providing the main contractors with enough time to investigate the local supply market to increase what they can buy locally. Because the private client organisation does not have information about local contexts in terms of their needs and their supply market capabilities, main contractors should be given enough time to investigate the local supply market themselves so that they can develop an SV delivery plan which would fulfil the client organisation's requirements. Main contractors might have regional offices or deal with the local suppliers which they can approach to collect data about the local purchasing patterns and available trades. This investigation should be done by the main contractors in the early procurement stages because the client should give the main contractors enough time to investigate the local context and develop their own answers for the SV requirements which makes time the limiting element of the improvement.

Improvement Model F aims at breaking down any site activities and studying if there is potential that this activity could be delivered locally to improve the local market engagement and ensure that the project is utilised locally. This improvement was suggested based on an interviewee who mentioned that if activities such as selling food for the workforce could be made locally the community would accept the project and have a better engagement with it. This improvement was suggested based on the argument that breaking down any activity, even if not construction related, would improve the possibility of local delivery and provide a better view of the project to the local communities. Local people might have the impression that contractors cause disruption to their lives because they are just seeing the negative side of construction and once the project is completed they will appreciate it, but during the disruption period people have this negative perspective which is what this improvement model would rectify. This improvement serves the local communities within the limitations of what the project has to offer in terms of add-on activities or packages that can be delivered locally.

Improvement Model G aims at maintaining a systems configuration through knowing the long-term goals of the client organisations during the construction duration based on the client being the owner of the whole improvement process.

Improvement Model H: aims at including the diverse range of constraints in the modelling process and ensuring that all improvement does not exceed the limitations they have.

6.4.5.1 Consensus Primary Task Model (Root Definition and CATWOE Elements)

Root Definition

A system owned by the private developer and operated by the private developer's (the client organisation) staff, the main contractor's teams and the tier 2 suppliers' management teams to deliver SV outcomes from the construction activities of their development projects that would fulfil the local needs of the communities where the developer is active through improving their approach in leading the supply chain towards the creation of short-term SV outcomes suitable for construction projects and activities. This system serves the local communities and their social needs where the construction takes place with the system's long-term goal being the utilisation of (shorter-term) construction activities to solve the social issues of the local communities they engage with, within the time before embarking on procuring the projects.

CATWOE Elements

T - A system to deliver SV outcomes from the construction activities of the private developer's development projects that would fulfil the local needs of the communities where the developer is active.

W - Through improving their approach in leading the supply chain towards the creation of short-term SV outcomes suitable for construction projects and activities.

O - The system owner is the private developer with the long-term goal of utilising short-term construction activities to solve the social issues of local communities they engage with.

A - The actors are the private developer's (the client organisation) staff, the main contractor's teams and the tier 2 suppliers' management teams.

C - Local communities which will interact with the development projects of the client organisation.

E - The limitations of the system is the time available before the client organisation starts procuring and delivering the construction project.

This system has multiple subsystems attached to it whereby carrying out the activities of these subsystems aims at achieving the system's objectives. From the rich picture the private developer, as a construction client, does not engage enough in SV outcomes that can be yielded from construction project activities because, by default, their business model focuses on the long-term socioeconomic benefits. This was why the project did not deliver as much SV outcome from the construction activities as could be expected and why the client should improve their approach towards SV outcomes from construction activities. Figure 72 shows the full CPTM model with all the subsystems and their activities which are needed to achieve the objectives of the CPTM.

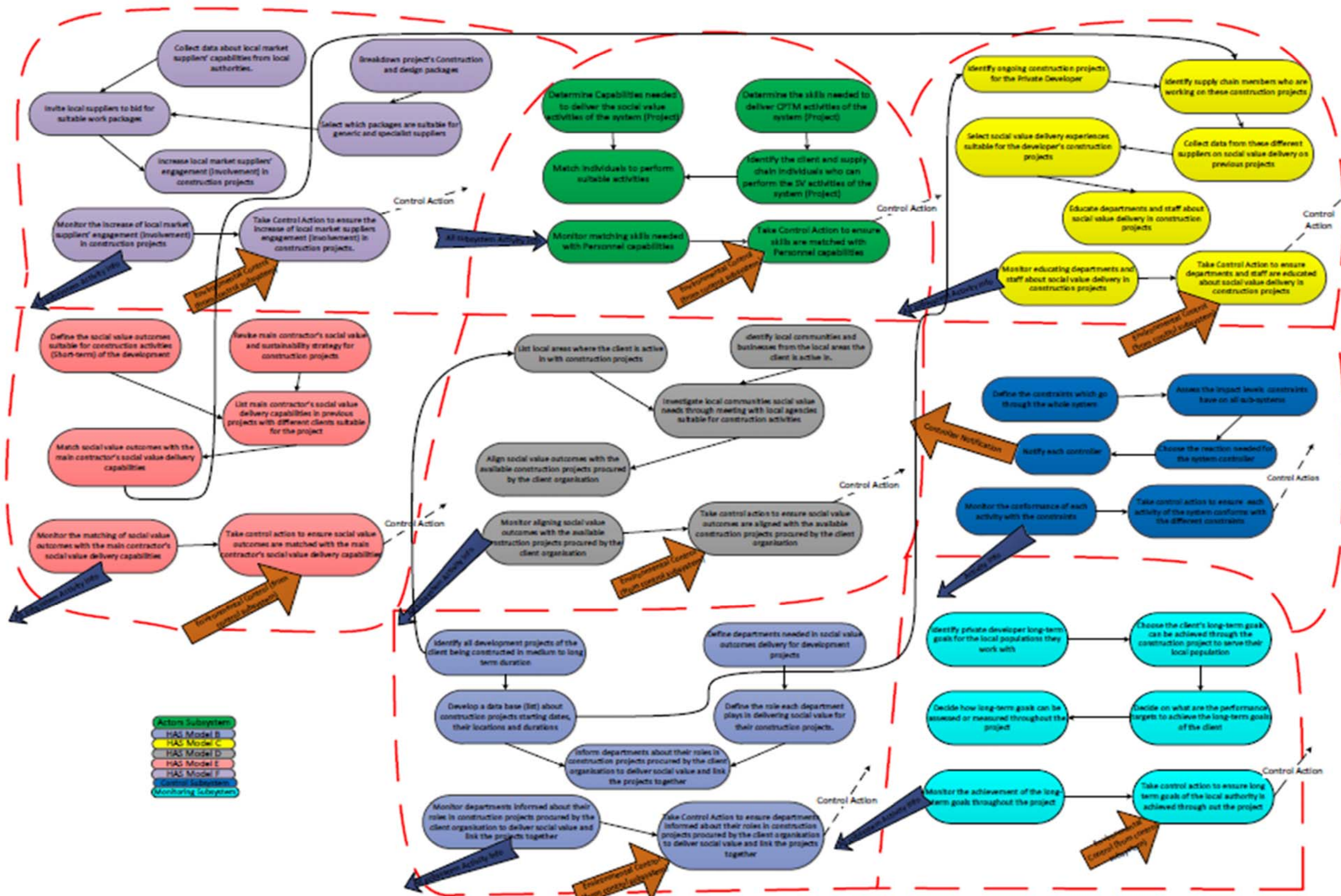


Figure 72 CPTM Model for Case Study Three

6.4.5.2 HAS Model A (Defining Actors' Subsystem Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the private developer and operated by the private developer and the main contractor's project directors to name the actors needed to deliver the SV improvement (CPTM) system activities through matching the capabilities (skills) of the personnel of the project team available and the requirements of the activities. This system serves the regional local authority which is delivering the activities of the wider system within the limitation of the available human resources (personnel skills and experience) (See figure 73).

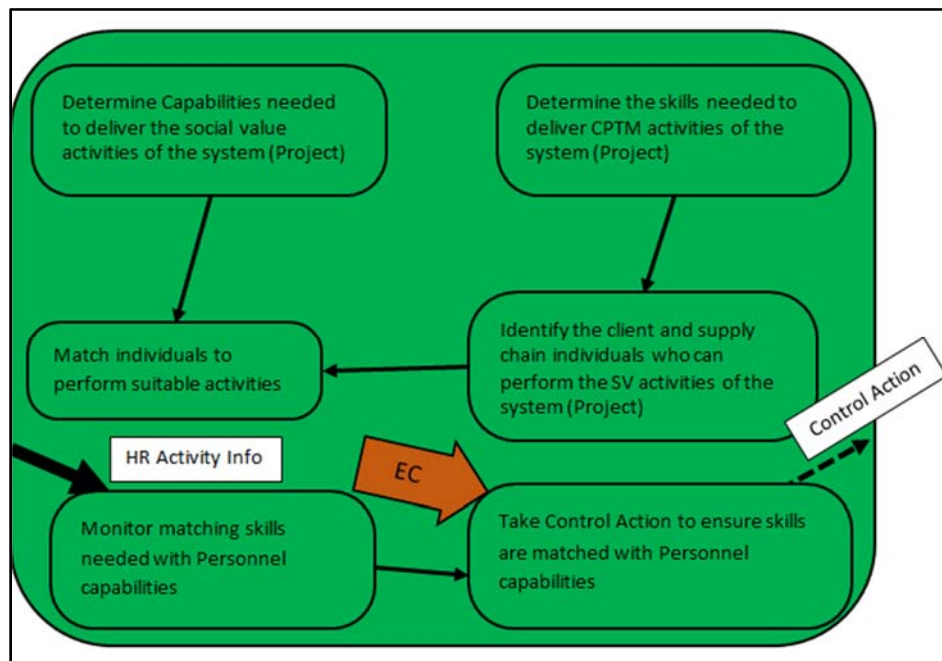


Figure 73 HAS Model A Activities (Case Study Three)

CATWOE Elements

T - To name the actors needed to deliver the SV improvement system activities.

W - Through matching the capabilities (skills) of the personnel of the project team available and the requirements of the activities the client organisation names the needed personnel.

C - The private developer.

O - The private developer.

A - The private developer and the main contractor leaders.

E – The available human resource to perform the activities (skilled personnel).

6.4.5.3 HAS Model B (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the private developer's operations director and operated by the organisation's sustainability, planning and strategic procurement department to aggregate the

SV outcomes of multiple construction projects from a programme's approach through enhancing the developer's construction pipeline visibility across different departments and reducing departmental silos within the organisation. This system serves the internal departments and staff of the client organisation (internal staff members benefit from this system as they will abandon the silos approach they work in) and works within the limitations of the human, financial and time resources. This system aims to achieve the long-term objective of the operations director of fully engaging (integrating) all departments of the organisation in SV delivery and in planning with the local communities they work with (See Figure 74).

CATWOE Elements

T - A system to aggregate SV outcomes to multiple construction projects from a programme approach.

W - Through enhancing the developer's construction pipeline visibility across different departments and reducing departmental silos within the organisation.

O - The system owner is the operations director of the client organisation who has the long-term objective of fully engaging (integrating) all departments of the organisation in SV delivery and in planning with the local communities they work with.

A - The sustainability and planning strategic procurement departments of the client organisation.

C - Internal departments and staff members of the client organisation. (Internal staff members benefit from this system as they will abandon the silos' approach they work in.)

E - The limitations of the system are the available human, financial and time resources needed to display the strategies to the internal staff.

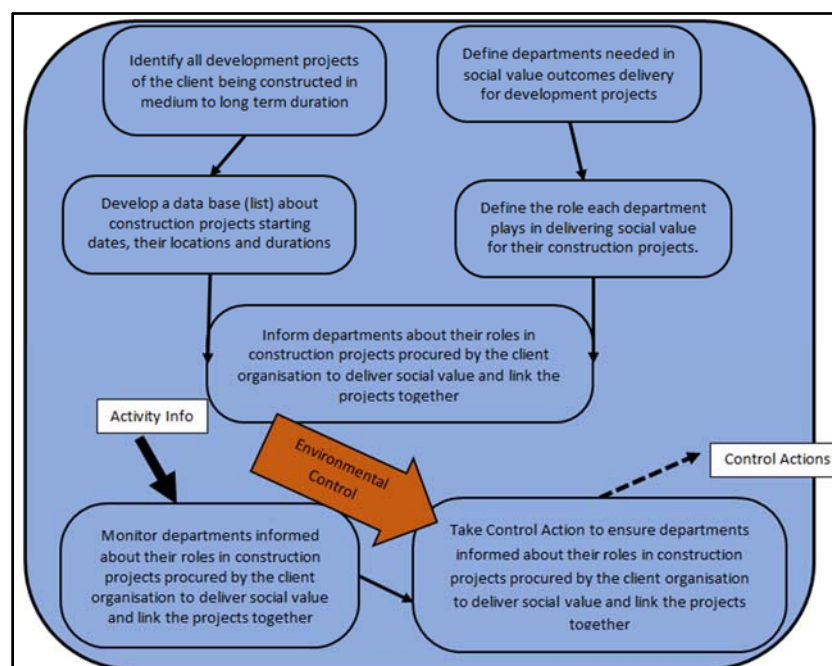


Figure 74 HAS Model B Activities (Case Study Three)

6.4.5.4 HAS Model C (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the operations director of the private developer and operated by the CSR consultant and the sustainability department to improve the knowledge base of the developer's staff and departments as to how to deliver short-term SV (construction activities) through capturing supply chain members' (main contractors and tier 2 suppliers) SV delivery experiences with other clients and on other projects. The system's long-term objective is to diversify and expand the staff's SV experience in construction projects by capturing this experience from external projects and exposing staff members to a diverse range of projects, local contexts and deliverables. The system serves the local communities which will benefit from the improved SV being planned and delivered within the limitations of the suitability of the project design and construction characteristics to the local context where they are working (See Figure 75).

CATWOE Elements

T - A system to improve the knowledge base of the developer's staff and departments as to how to deliver short-term SV (construction activities).

W - Through capturing supply chain members' (main contractors and tier 2 suppliers) SV delivery experiences with other clients and on other projects. Capturing the SV experience from external projects exposes the client's staff members to a diverse range of projects, local contexts and deliverables which diversifies the staff's SV experience in construction projects.

O - The system owner is the operations director of the client organisation who has the long-term goal to diversify and expand the staff's SV experience in construction projects by capturing this experience from external projects and exposing staff members to a diverse range of projects, local contexts and deliverables.

A - The actors are the CSR consultant and the sustainability department of the client organisation.

C - Local communities benefiting from the improved SV being planned and delivered.

E - The limitation of the system is the suitability of the project construction and design characteristics to the local context where they are working.

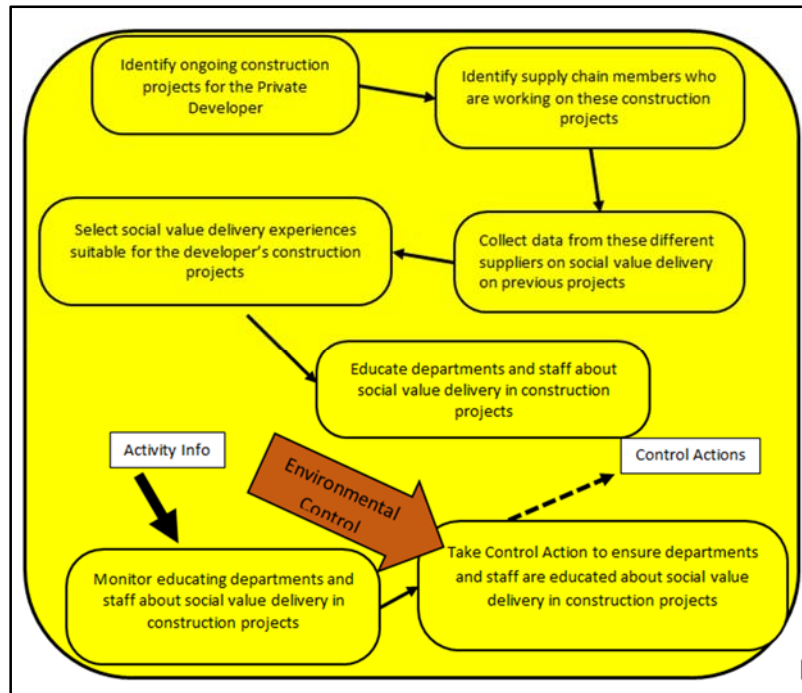


Figure 75 HAS Model C Activities (Case Study Three)

6.4.5.5 HAS Model D (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the operations director of the private developer and operated by a team of management champions, sustainability and planning departments and local community and local business representatives to know short-term construction value outcomes in the areas the client is active in through the early involvement of local businesses' and communities' representatives in the areas of the planned development in the period of building up the business case. Early inclusion of the local community and business representatives in the investigation exercise early in the project enhances how SV outcomes are perceived and developed. This system serves the local community by including them in the planning for them to have a say in the development within the limitation of time and human resources (See Figure 76).

CATWOE Elements

T - A system to know short-term construction value outcomes in the areas the client is active in.

W - Through the early involvement of local business and community representatives in the areas of the planned development in the period of building up the business case. Early inclusion of the local community and business representatives in the investigation exercise early in the project enhances how SV outcomes are perceived and developed.

O - The system owner is the operations director of the private developer.

A - The actors consist of a management champion, the sustainability and planning departments, the local community and local business representatives.

C - Beneficiaries are the local communities, by including them in the planning to have a say in the development.

E - The limitations of the system are the time, human and finance resources required.

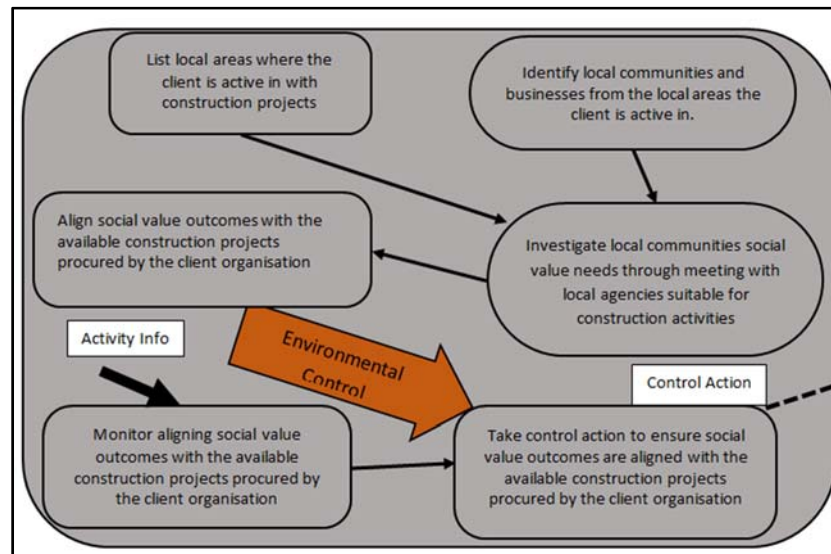


Figure 76 HAS Model D Activities (Case Study Three)

6.4.5.6 HAS Model E (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the private developer's operations director and operated by the main contractor's regeneration teams (working on sustainability) and the client's sustainability department to match the construction SV outcomes (choices) developed by the client, with the main contractor's capabilities to create local economic outcomes through investigating the local market capabilities during the pre-procurement phase, before engaging in the procurement phase, offering enough time for the main contractor to develop local economic outcomes that would achieve the client's vision of the SV outcomes. The system serves the main contractor with the long-term objective of offering them time to improve their SV planning and management outcomes during the construction phase of their development projects within the time limitations available before engaging in procurement and construction (Se Figure 77).

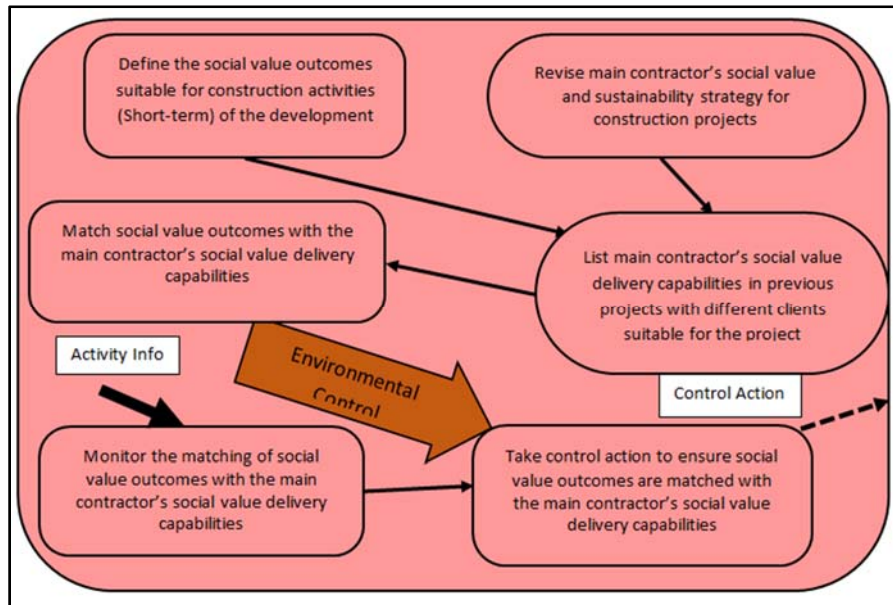


Figure 77 HAS Model E Activities (Case Study Three)

CATWOE Elements

T - A system to match the construction SV outcomes (choices) developed by the client with the main contractor's capabilities to create local economic outcomes.

W - Through investigating the local market capabilities during the pre-procurement phase before engaging in the procurement phase offering enough time for the main contractor to develop local economic outcomes that would achieve the client's vision of the SV outcomes.

O - The system owner is the private developer's operations director who has the long-term goal of improving the main contractor's SV outcomes within the construction phase of their development projects.

A - The actors consist of both the main contractor's regeneration teams (working on sustainability) and the client's sustainability department.

C - The client of the system is the main contractor organisation which will improve their SV engagement.

E - The limitation of the system is the time available between the pre-procurement phase and the procurement start.

6.4.5.7 HAS Model F (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the client organisation and operated by the main contractor's supply chain management department, the suppliers and the local authority's regeneration teams to increase the suppliers' engagement with local benefits through breaking the project down into construction and design packages which suit the local market suppliers' capabilities (after investigating the local market's strengths and weaknesses) to achieve the client organisation's long term goals of improving the construction phase SV outcomes produced by the suppliers

downstream in the supply chain. The system serves the supply chain members from the local market and improves their interaction with the local context within the limitations of the project characteristics (See Figure 78).

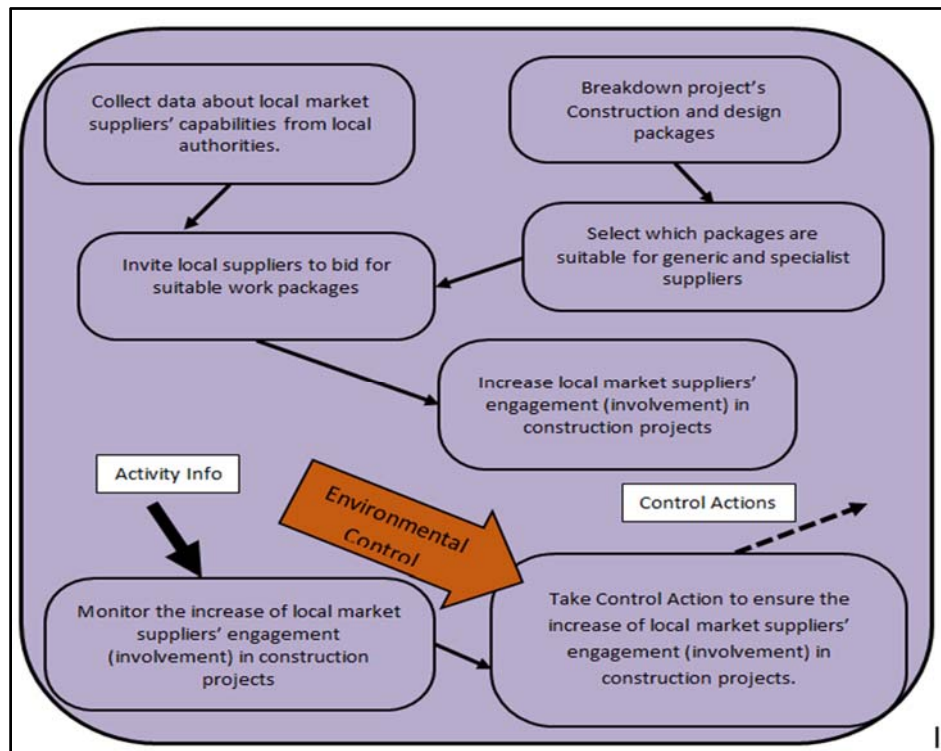


Figure 78 HAS Model F Activities (Case Study Three)

CATWOE Elements

T - A system to increase suppliers' engagement with local benefits.

W - Benefits through breaking down the construction and design packages which suit the local market suppliers' capabilities after investigating the local market strengths and weaknesses.

O - The system owner is the client organisation with development projects in local areas.

A - The actors consist of the main contractor's supply chain management, the suppliers and the local authority's regeneration teams.

C - The clients of the system are the supply chain members in the local markets.

E - The limitation of the system is the time available between the pre-procurement phase and the procurement start.

6.4.5.8 HAS Model G (Monitoring subsystem Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the private developer and operated by the private developer's operations management team to achieve the long-term goals of the private developer (owner of the system) through understanding the strategic goals of their shareholders in terms of serving their local

communities and assessing how they can be measured against the construction project's SV performance. This system serves the local communities within the limitations of the developer's willingness to invest in improving SV delivery in their construction projects (See Figure 79).

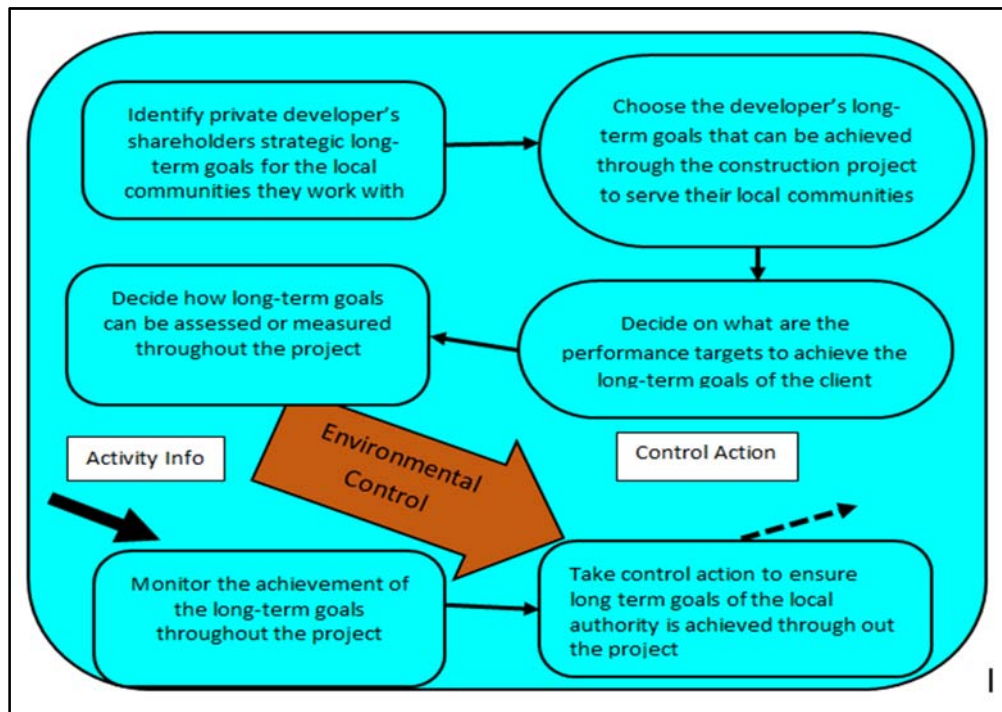


Figure 79 HAS Model I Activities (Case Study Three)

CATWOE Elements

T – To achieve the long-term goals of the construction client (owner of the system).

W – Through understanding the strategic goals for the client's local (community) population and assessing how they can be measured against the construction project's SV performance.

C - The local communities of the private developer.

O – The private developer's shareholders.

A - The private developer's strategic management team.

E - The limitation is the developer's willingness to invest in improving SV delivery within their construction projects.

6.4.5.9 HAS Model H (Controlling Subsystem Root Definition, CATWOE Elements and Model)

Root Definition

A system owned by the private developer and operated by the private developer's strategic management team to ensure that all the activities of the CPTM model conform with the different constraints of the construction project which have been named by the key stakeholders of the project as impacting upon SV delivery (See Figure 80).

CATWOE Elements

T – To achieve the long-term goals of the private developer (owner of the system).

W – Through understanding the strategic goals of the private developer's shareholders towards the local communities and assessing how they can be measured against the construction project's SV performance.

C - The private developer's organisation.

O – The regional local authority.

A - The private developer's management team.

E- No limitations known.

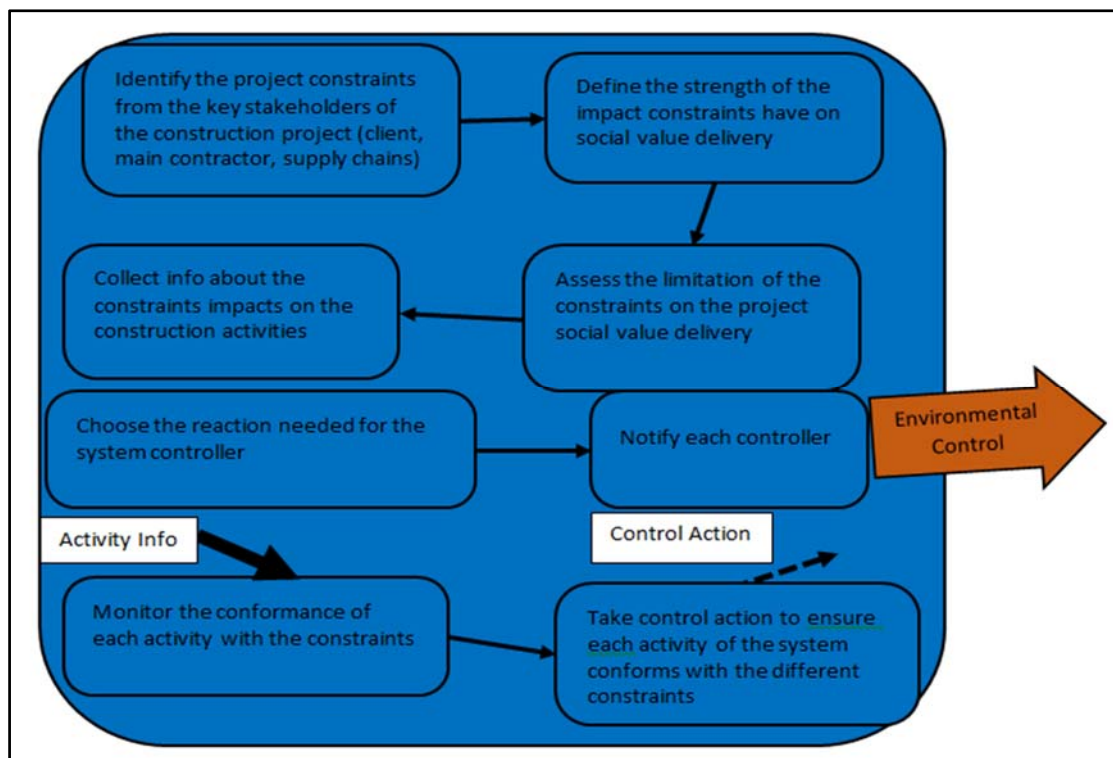


Figure 80 HAS Model J Activities (Case Study Three)

6.4.6 SVAZ

A SVAZ was developed from the classification of the activities based on the different GDCPP phases and the CPTM activities. The CPTM was designed to assist the private developer in the inclusion of short-term SV outcomes which are more suitable for construction activities and to improve the knowledge of the client organisation regarding investigating the local context which needed improvement as per the rich picture and the factors that were depicted by the interviewees. In addition, the CPTM and the activities were aimed at the inclusion of the main contractor and the suppliers in SV education and implementation because it was noted by most of the interviewees that the client organisation needed improvement in their communication with the main contractor and the suppliers. Finally, activities designed to include SV in the procurement processes were introduced to assist the client in providing the right culture and atmosphere for collaboration and for exploration of SV delivery methods. Accordingly, a SVAZ was developed as shown in Figure 81 to reflect these improvements at suitable stages

of the construction project where the activities of each subsystem were plotted against the most suitable stage of the GDCPP.

Pre-Project Phases					Pre-Construction Phases					Construction Phases			Post Completion Phase
(Phase Zero) Demonstration of Need	(Phase One) Conception of Need	(Phase Two) Outline Feasibility	(Phase Three) Substantive Feasibility Study & Outline Financial Authority	Hard Gate 1	(Phase Four) Outline Conceptual Design	(Phase Five) Full Conceptual Design	Hard Gate 2	(Phase Six) Coordinated, Design & Procurement & Full financial Authority	Hard Gate 3	(Phase Seven) Production Information	(Phase Eight) Construction	Hard Gate 4	(Phase Nine) Operation & Maintenance
Identify all development projects of the client being constructed in medium to long term duration													
	Develop a data base (list) about construction projects starting dates, their locations and durations		Identify ongoing construction projects for the Private Developer					Identify supply chain members who are working on these construction projects		Educate departments and staff about social value delivery in construction projects		Monitor and take Control Action to ensure departments and staff are educated about social value delivery in construction projects	
Define departments needed in social value outcomes delivery for development projects			Inform departments about their roles in construction projects procured by the client organisation to deliver social value and link the projects together	Take Control Action and monitor to ensure departments informed about their roles in construction projects procured by the client organisation to deliver social value and link the projects together				Collect data from these different suppliers on social value delivery on previous projects					
	Develop a data base (list) about construction projects starting dates, their locations and durations							Select social value delivery experiences suitable for the developer's construction projects					
Investigate local communities social value needs through meeting with local agencies suitable for construction activities		Define the social value outcomes suitable for construction activities (Short-term) of the development			Revise main contractor's social value and sustainability strategy for construction projects	List main contractor's social value delivery capabilities in previous projects with different clients suitable for the project			Take control action to ensure social value outcomes are matched with the main contractor's social value delivery capabilities				
List local areas where the client is active in with construction projects					Match social value outcomes with the main contractor's social value delivery capabilities								
	Collect data about local market suppliers' capabilities from local authorities.				Breakdown project's Construction and design packages			Invite local suppliers to bid for suitable work packages					
Identify local communities and businesses from the local areas the client is active in.	Align social value outcomes with the available construction projects procured by the client organisation			Monitor and take control action to ensure aligning social value outcomes with the available construction projects procured by the client organisation		Select which packages are suitable for generic and specialist suppliers		Increase local market suppliers' engagement (involvement) in construction projects	Monitor & take Control Action to ensure the increase of local market suppliers' engagement (involvement) in construction projects.				
Determine Capabilities needed to deliver the social value activities of the system (Project)					Determine Capabilities needed to deliver the social value activities of the system (Project)		Monitor and take control action to ensure matching skills needed with Personnel capabilities	Determine Capabilities needed to deliver the social value activities of the system (Project)		Monitor and take control action to ensure matching skills needed with Personnel capabilities	Determine Capabilities needed to deliver the social value activities of the system (Project)		Monitor and take control action to ensure matching skills needed with Personnel capabilities
Determine the skills needed to deliver CPTM activities of the system (Project)					Determine the skills needed to deliver CPTM activities of the system (Project)			Determine the skills needed to deliver CPTM activities of the system (Project)			Determine the skills needed to deliver CPTM activities of the system (Project)		
Match individuals to perform suitable activities					Match individuals to perform suitable activities			Match individuals to perform suitable activities			Match individuals to perform suitable activities		
Define the limitations (Constraints) which go through the whole system				Monitor and take control actions to ensure the conformance of each activity with the constraints	Define the limitations (Constraints) which go through the whole system		Monitor and take control actions to ensure the conformance of each activity with the constraints	Define the limitations (Constraints) which go through the whole system		Monitor and take control actions to ensure the conformance of each activity with the constraints	Define the limitations (Constraints) which go through the whole system		Monitor and take control actions to ensure the conformance of each activity with the constraints
Assess the impact levels constraints have on all sub-systems					Assess the impact levels constraints have on all sub-systems			Assess the impact levels constraints have on all sub-systems			Assess the impact levels constraints have on all sub-systems		
Choose the reaction needed for each controller					Choose the reaction needed for each controller			Choose the reaction needed for each controller			Choose the reaction needed for each controller		
Notify each controller					Notify each controller			Notify each controller			Notify each controller		
Identify local authority's strategic long-term goals for the local population	Choose the client's long-term goals can be achieved through the construction project to serve their local population												
			Decide how long-term goals can be assessed or measured throughout the project	Monitor and take control actions to ensure the achievement of the long-term goals throughout the project			Monitor and take control actions to ensure the achievement of the long-term goals throughout the project		Monitor and take control actions to ensure the achievement of the long-term goals throughout the project			Monitor and take control actions to ensure the achievement of the long-term goals throughout the project	
			Decide on what are the performance targets to achieve the long-term goals of the client										

Figure 81 SVAZ for Case Study Three

6.4.7 Conclusions of Case Study Three

The propositions of Chapter five were reviewed after the case study data were analysed thematically, producing a rich picture to describe the reality of the case and the development of the Consensus Primary Task Model (CPTM) and following the SVAZ as the process which would help the improvements (depicted from the analysis and presented in the rich picture) to be achieved. The following points review such propositions in line with what was suggested.

1. Despite the client organisation being a private developer, the influence and leadership they had over SV existed. The client was the most influential stakeholder in creating SV outcomes compared to other parties in the project. Nevertheless, the client did not use its leverage to create value for their construction activities because of their attributes (business mode and market, type and experience) which granted them extensive experience to deliver permanent (long-term) socioeconomic benefits for the communities they work with but not as much short-term SV benefits from the construction activities. Finally, the client did not use a management champion who would be responsible for the delivery of SV or who would advocate the main contractor to choose a champion; this had a negative impact on SV delivery.
2. It was implied that the stakeholders which had enough power to influence SV were the client organisation and the main contractor whereas the supply chain members, unintentionally, were not supported by the client or the main contractor to take part in the delivery of SV due to a lack of communication and leadership. Tier 2 contractors had the potential to deliver, and the experience of delivering, SV outcomes with other clients and different jobs but they only did so with the right level of influence and guidance from the clients and the main contractors.
3. The challenges for SV were, primarily, as a lack of defining what the client aimed at achieving, whereby the definition of the SV outcomes was incomplete (in terms of the construction activities). Secondly, the implementation lacked guidance and techniques (which the client did not have) and the measurement techniques reported the outcomes but without any reference to what was defined at the initiation of the project.
4. Factors affecting SV on a project level were as in Chapter five and in the previous case study. However, the influence level of each factor was different in this case study. For example, the local context factor was negatively influential because the client could not link the project to a certain local area or community, nor could they take on board the local community needs and try to improve them because the location of the project was outside any residential or commercial areas. The financial aspect of the project had a positive impact on creating SV whereby the public loan and grant had socioeconomic requirements attached to them; the client had to apply these requirements to comply with the lender's conditions. The design and construction characteristics had an impact on the level of SV delivered for the project, it being a highly technical engineering construct. The response of the supply chain had very little impact on SV, due to the low communication with them.

Finally, despite the strategic procurement being OJEU compliant it was adopted to support SV delivery.

5. The SV outcomes perceived by the client and the main contractor were only for apprenticeship delivery for 14 individuals without any mention of other short-term SV outcomes. The client expected that the project would improve the quality of air, reduce traffic congestion and provide better connectivity to other areas; these were considered as community benefits by the client and by the local authority as SV outcomes. However, accurate measurement of the SV outcomes was not achieved by the project team.
6. Early intervention was perceived by all the interviewees as an important element in delivering SV because it assists organisations and individuals to investigate local context, construction attributes, and the planning process. Early engagement of SV helps all parties to properly include SV in their project business model, even if they do not have enough experience of the process.
7. Finally, it was clear that the systems modelling via the CPTM and the GDCPP, in the form of a new SVAZ can improve the process of delivering outcomes. The rich pictures provided a clear description of reality and helped the researcher to name the areas for improvement. The modelling aspect helped the researcher to conceptualise what was needed to be done to improve the current situation and the AZ assisted the researcher to develop a detailed plan that would link to the different stages of the construction project to deliver SV optimally.

In conclusion, this case was selected because the client was a private organisation which would have a different approach to their construction projects than public clients. The funding of the project was a mix between public and private money in addition to regional grant which had socioeconomic requirements attached to them. The local context for this project was unknown because it was not linked to any local population directly and the client organisation being private did not have the information about what the local population needs were or the business units to obtain such information. The project design characteristics being a transportation infrastructure facility which had an impact on the available engineering companies which can provide the design and construction experience. In this case the client being private did not have the information about the local context because the project was being constructed away from populated areas which disconnected it from local populations. The regional loan offered the socioeconomic outcomes to the project, but it was dealt with as a tick box exercise and was never challenged by the client or the main contractors. The main contractor had the experience in delivering soft outcomes to their client but did so when the client had a proactive approach towards these outcomes which did not happen in this project. It was indicated that the client organisation being private with their business being commercial ventures they focused on the long-term creation of benefits to the communities they worked with and not the outcomes created during construction procurement. The subcontractors indicated that they did not deliver any outcomes with soft nature if they were asked by the clients and the main contractors but did not because in this project there was no communication with either party. These subcontractors worked with other clients and main contractors who engaged and encouraged them to deliver such outcomes. In this case the challenges were clear when the data was

analysed but was not quite as clear to the interviewees. It was the client business model not recognising construction potential, main contractors who did not have a clear understanding about what the client requirements were. And the lack of local context data of link to specific populations. These challenges led the development of HAS models where it was clear that the situation was problematic for all key stakeholders and the SVAZ could significantly improve how the client approached this project in terms of creating value. The findings of this case will be further discussed and linked back to the literature in chapter seven discussion section.

6.5 Case Study Four

6.5.1 Case Study Description

Case study four was a housing project in the North West region where the housing contractor was chosen by a local authority to build 400 houses through a partnering agreement between both parties on the project. The main contractor was chosen because of its regeneration experience working with the same local authority on previous housing development projects where the main contractor was a UK leader in the field of housing and regeneration with extensive experience in SV. The main contractor appointed an individual as the community engagement manager for the project which displayed their intention towards engaging with SV and with the local community. The project budget exceeded £50 million from a community funding body to reduce social deprivation and low-quality housing in different neighbourhoods over 8 years' duration with the project starting in 2015.

The main contractor was selected as the preferred partner with the local authority after presenting a plan of delivering more than 400 houses with a percentage of these houses being affordable homes and a new park for the local community. There was an agreement between the local authority and the main contractor on several SV outcomes to be delivered under the terms of the development. The planning for the development and negotiating terms took 19 months from 2015 once the procurement process was complete. The outcomes agreed; were 70 full-time construction jobs during the project's duration, 16 apprentices on a two-year programme, at least 30% local labour, 30% local purchasing within the budget and placements creation during the whole duration of the project.

Non-economic benefits were among the improvements which the main contractor engaged in within the local areas, where improvements in open play areas, pedestrian paths and sports facilities were made and created as per the SV engagement. The local population involvement in the development of these SV outcomes influenced their acceptance of the project and enhanced collaboration between the local authority and the main contractor. The local area was deprived in terms of investment and delivering socioeconomic benefits to its population which was the reason it was included in the development plan by the local authority.

This was also a challenge to the main contractor in terms of changing the current situation and reporting any improvements to the client organisation. The development was issued because it would assist the local population in access to new houses, it created jobs, it up-skilled local suppliers and engaged with the local population. Furthermore, the design characteristics of the project, being a housing construct, were generic which did not require specialist experience or

highly experienced engineering suppliers. The design for the project was to have 2- and 3-bedroom houses which created more opportunities for purchasing locally because the local authority was trying to understand the complex nature of the local supply chains and how they could boost local purchasing in line with that. With the houses exceeding 400, and the duration being 8 years for the development, the supply chain members were offered a stable and consistent pipeline of work to create outcomes. However, from different participants within the case study it was clear that SV required improvement and that the results were not as satisfactory as the client and main contractor expected.

6.5.2 Interviewee Profiles

The key stakeholders perceived to be influencing SV was the client organisation, the main contractor and the tier 2 suppliers who were engaged with the local community. These stakeholders were approached to understand the project and its SV elements through interviewing several of the individuals representing these stakeholder organisations. The client organisation provided guidance about SV and local community engagement to the main contractor during the negotiations. The main contractor had experience of SV creation through their projects whereby they had similar housing projects which they successfully delivered SV through. The main contractor organisation was the developer and the main contractor and thus was approached by the researcher to understand both roles separately whereby individuals playing the roles of developers were interviewed and then individuals playing the role of main contractors were interviewed. The two suppliers were approached by the researcher to understand how they were managed by the main contractor through the project. One supplier was not related directly to the construction because they provided security and was hired because they were a local company hiring local residents which was why they were approached by the researcher to understand where SV lies with them.

The second supplier was a civil engineering and groundworks supplier who had a large portfolio and a traditional construction business model. They worked in different areas of the North West region and they were approached to understand how SV was communicated to them and how they responded to such communication. Everyone interviewed was linked to the project through their current roles in their organisation and in the project and they were chosen because of their overall experience and project position. Table 14 shows the profile for each interviewee, their role, and their SV experience in the development project.

Organisation	Project Role	Profile and Responsibilities	Abbrev.
Client (Local Authority)	Development Manager	Sat on the panel that looked at the procurement and selection of the development partner and negotiated the property deal. Then moved to the regeneration and development team with the Council acting as the client role.	ZB
Client (Local Authority)	Procurement and Category Manager	Procurement manager and prior to that category manager at the local authority with the role of looking at the opportunities around the development project.	IV2
Developer	Land and Partnership Director	Extensive experience in the regeneration and development sector with a strong housing and community engagement background. Skilled in Social Enterprise, Local Government, Bid Writing, Bid Preparation, and Management.	BM
Developer	Commercial Manager	Over-arching role in terms of cost through providing land appraisals for the viability of the projects. Managed the technical information used in project procurement, monitored costs against the budget and finally closed out the projects in terms of final accounts and onward maintenance.	SL
Main contractor	Community Engagement and Investment Manager	Engaged in improving the area and giving back to the local community using the developer's expertise, skills and finances. Built local context for each development project because of the different needs of each area and worked with partners to deliver programmes or projects to support those needs.	IA
Main contractor	Construction Director	Construction Director for the projects with extensive experience of housing projects. At the time of the interview he had replaced the previous construction director but had studied the project for two months before moving to the new role.	HR
Tier 2 Supplier (civil engineering and ground work)	Managing Director	Founding partner of a family run business with a turnover of £35m based in local areas in the North West employing around 220 people and engaged in projects up to £15m. Working in ground works, civil engineering, and house building and remediation.	FL
Tier 2 Supplier (Site Security provider)	Managing Director	Managed the security of the construction site since the start of the project to the present date. Local supplier and local resident of the area	IV1

Table 14 Case Study Four Interviewee Profiles

6.5.3 Intra-Case Analysis

6.5.3.1 Client Leadership of SV Delivery Process

The client organisation was the leader of SV with influence over the developer and the main contractor. It emerged from the interviewees' transcript analysis that the client organisation had a significant influence over the projects they procured and on the SV outcomes they delivered through them. Figure 82 shows the client organisation's subthemes which emerged through the analysis. They are listed as follows:

1. Client communication methods
2. Client experience and capabilities
3. Nature of the client organisation.

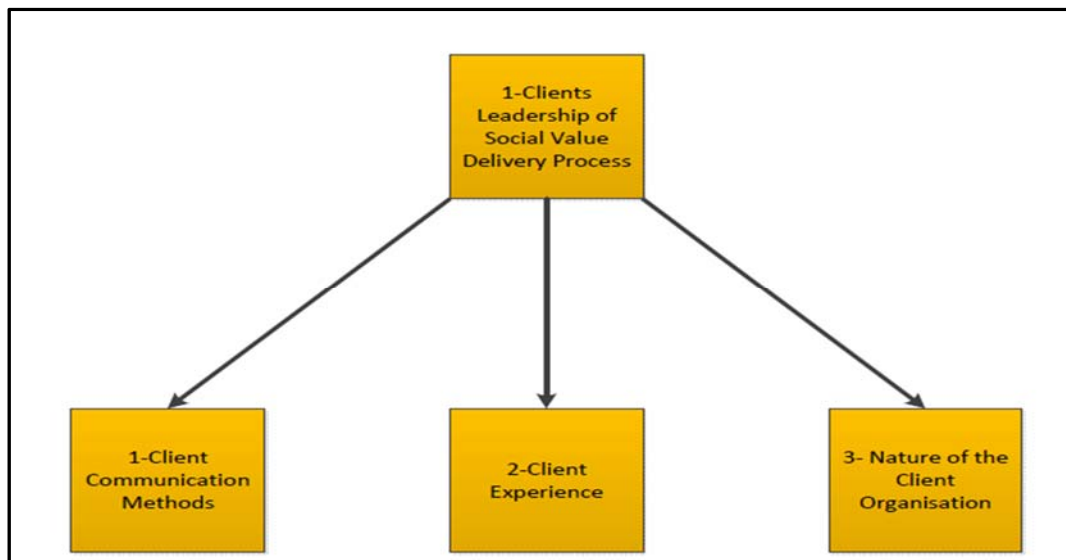


Figure 82 Client Organisation Subthemes (Case Study Four)

6.5.3.1.1 *Client Communication Method*

In this project, the client organisation was responsible for clearly defining the deliverables they need from the project to their supply chains starting with the main contractor. The communication method and quality between the client and the main contractor about SV was not optimal. The lack of an organisational champion had an impact on how the message about SV was dealt with during the procurement of the development project. It was clear from the interviews that if the client did not ask for SV as a deliverable within their project it was highly unlikely that the main contractor would have delivered it on their own without guidance or engagement from the client. It confused the main contractors if the client did not select the outcomes they aim to achieve and thus in this case the client did not engage with the SV outcomes despite there being previous practice from the client organisation (the client carrying out multiple workshops for the key stakeholders of the project and developing local community requirements in the form of project deliverables).

Nevertheless, the outcomes of these workshops were not utilised in the procurement process because the information that came from the workshops was not accommodated by other information from the business units within the local authority. The lack of data from the business units was linked to the limited resources of the local authority to develop this information.

Accordingly, the communication process did not provide the information at the right time (in the early stages before the procurement starts) to provide the developer with the guidance needed concerning SV planning and inclusion. In addition, as the main contractor had experience in the housing sector in the region the organisation possessed information about creating SV. Other than information about land value and construction experience the main contractor was not asked to provide any further data and information about the SV experience they had. As a result, the SV requirements had no thorough process behind it and lacked justification behind its development. The client (the local authority) did not follow up on the progress of the SV outcomes they asked for from the main contractor, particularly concerning local purchasing and engaging with local suppliers. The main contractor could not engage with

local suppliers for several reasons, but the client organisation did not follow up on this to understand these reasons and did not attempt to approach problems in this area. Finally, bidding questions are a formal type of communication which sets the tone for SV from the client to the contractors. In this project's bid questions, the weight of the SV questions was less than the other types of requirements which might have sent the wrong messages about SV to the bidders.

6.5.3.1.2 Client Experience

The client, at the time of this study, had limited experience of development agreements because they had some experience in the past from two project agreements – but there had been a long duration of time between these two projects. The client did not demand SV requirements because of their lack of experience which, in turn, discouraged the main contractor from approaching SV because the client could not undertake the extra effort needed to achieve it. A lack of experience of development projects increased the inability of the client organisation to gain experience of such agreements and to improve how they approached them. The ability and experience of the client to choose the developer/main contractor with SV bolted onto that organisation's culture could not include SV to be among the core objectives of the project.

Furthermore, the client did not have an organisational champion for SV, who would have understood the scope to link SV strategies and operational level decisions. This lack of a champion challenged planning implementation, both in the project and in the client organisations. No one from the client organisation or the main contractor had the influence to manage the expectations of the client and match them with the capabilities of the contractor and the project. The experience of the client organisation in voicing the need for the champion influenced the project.

6.5.3.1.3 Nature of the Client Organisation

Because the client was a local authority they depicted and viewed SV around localism, with the local community being the main receiver of such outcomes. For example, local training programmes, local economic benefits and local supplier upskilling were among the outcomes the client as a local authority aimed at achieving. The client reviewed bids according to the amount of service that the main contractor could provide to their local community. The client employed individuals to manage the delivery processes and were experienced in SV creation because they were a local council with their main scope being the delivery of public service to the local community. Hence, it was normal for the client organisation to have experienced staff. The client had business units developing plans on improving skills and employment within the local community and thus collect data about community needs and developed plans to satisfy them. The client used the data they gained from different business units to develop bid requirements for SV inclusion within projects.

the client's SV policy did not automatically guarantee SV delivery, neither did the amount of investment and whether the project is high or low value. In previous development projects procured by the local authority SV was only touched upon, with minimal efforts made to deliver community engagement events despite the existence of SV policies within the organisation. The client's business model for development projects was challenging to the concept of SV because it focused on the maximisation of the land value which conflicted with the regeneration strategies and local community considerations. It was clear from this study

that client dealt with housing development projects from a private land owner's point of view which was why the conflict occurs. Finally, because the client was influenced by the budget cuts from central government this client was facing pressures and monetary constraints which challenged their ability to assign resources for the investigating SV or the development of programmes to serve local communities.

6.5.3.2 Project Characteristics

Factors which affected the project performance had an impact on SV performance and outcomes. Five factors emerged from the thematic analysis which impacted upon how SV was delivered. Figure 83 shows the five factors which affected the notion of SV in the project.

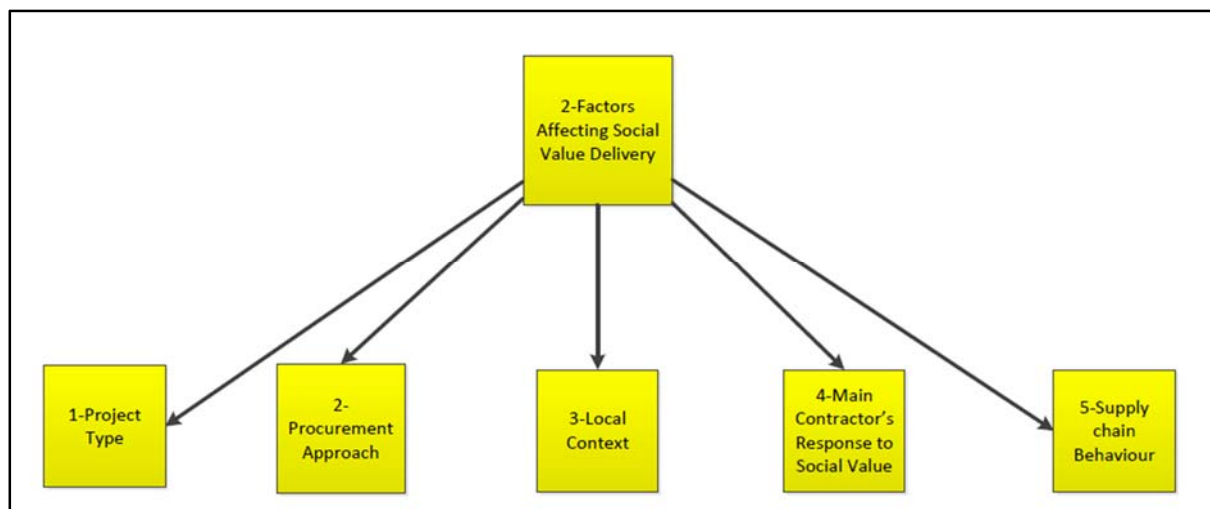


Figure 83 Project Characteristics (Case Study Four)

1. Project type
2. Procurement approach
3. Local context
4. Main contractor's response to SV requirements
5. Supply chain behaviour.

6.5.3.2.1 Project Type

The project's outcomes were influenced by it being a housing development; to clarify, the project area was deprived from redevelopment projects for a long period making this project and utilisation paramount for the regeneration plans. Because the area needed the development project, the client organisation encouraged the main contractor to engage with SV and the main contractor assigned the resources to create and add value. The project, being a housing development, had an eight-year duration of work and thus held potential to create SV such as the client required. However, because the project was a housing development it depended on sales and thus the state of the housing market influenced SV creation when house sales slowed down, because the developer approached the pace of construction depending on the sales. Since the project was influenced by investment cycles and economic circumstances, investment decisions were linked to economic circumstances, the contractor was able to predict a continuous flow of work which impacted their performance and provided a more collaborative

approach between the main contractor and the supply chain members. Therefore, the ability of the client organisation to provide a continuous flow of work impacted the consistency of the supply chains in delivering their outcomes. Suppliers were always willing to fulfil the requirements of the client organisation which had a long term guaranteed pipeline of work which, in turn, improves their engagement with SV.

The design characteristics of the project impacted how the main contractor approached the local market because if the capabilities of the local market match the design requirements the local benefits would increase, but if the local market capabilities are limited the local benefits would decrease. Housing projects have generic construction elements which do not require specialist contractors so the opportunity to deliver local benefits increased with this type of project. Therefore, it was not as cumbersome a task to make design changes for construction elements to suit the local market. In the project, a construction element was requested by the client organisation to be delivered from abroad; the main contractor attempted to alter this because when the element was purchased from the local market it did not jeopardise the quality of the job. Nevertheless, it was important to mention that construction elements could only be altered to a certain limit as they have to comply with the national housing standards which required investigation of the local market.

6.5.3.2.2 Procurement Approach

The main contractor was obliged contractually to deliver specific outcomes where contractual requirements for SV were perceived as a form of communication from the client and provided a clear understanding of the client's intentions towards SV. When SV requirements were mandated contractually it provided a sense of urgency about the level of importance it had for the client. The client organisation influenced the process of procuring the tier 2 suppliers through providing data about local construction suppliers available for the project to the main contractor and encouraging them to procure locally. The changes in market dynamics created pressure on the client organisation to create value whereby the changing dynamics had an impact on the duration of the project, how it was procured and the types of requirements and articulation there was in the bid documents. SV importance was reflected in the tender weighting which was 20% of the entire project.

Procuring the tier 2 suppliers by the main contractor was different from the approach to procurement by the client as the main contractor procured suppliers based on the lowest price with the commercial team having to negotiate the reduction of cost with the suppliers before choosing the most suitable suppliers. Finally, despite that suitable procurement route (to add SV) were selected it was mentioned by the interviewees that adding SV requirements in the procurement and bid stages is the start of SV management and that the client organisation should have intervened in every stage possible. Due to their procurement approach being different from main contractor to the tier 2 suppliers the client had to intervene to ensure that, despite the different procurement approach, the suppliers were still engaged with SV delivery throughout the project.

6.5.3.2.3 Local Context

The client organisation had experience of collecting data about local market capabilities to promote the opportunities they have for the local traders. The local authority knew the

conditions of the local areas in terms of economic prosperity and the deprived areas and tried to improve their local knowledge and include this data in the project. Deprivation created a demand for SV in the local areas to be served by the development project or the local communities would not have bought buy into the project. The client aimed at increasing the local community's acceptance of the project and improved how the project was pictured by residents through community events and school engagements. Nevertheless, a full picture of the local context was not easily instilled by the client organisation because of the complex nature of the issues and demands of different community groups over the areas they work in. Within the local area there was several groups and agencies with conflicting objectives and complex structures which led the developer to ignore some agencies and include others in an attempt to reduce the level of complexity and conflict about what SV was in the project.

The civil local supplier had a deep understanding of the local context; how to recruit the local workforce and how the project would impact the local area they were working in due to them being rooted in the community. The benefits, the community gains from hiring local suppliers were as high as the money spent in the local markets through wages and materials that improved the community wellbeing. The client could not utilise the local context in SV planning and outcomes through their inability to conduct a thorough investigation of the local market's capacity, capabilities and current conditions from the pre-procurement stages and throughout the duration of the project. Accordingly, assessing SV by the client and the developer was considered as a further investigation into the local context and an improvement in the local authority's knowledge. Moreover, investigating local context from the main contractor's point of view should have been supported by the client because it required financial resources and additional time at the planning stage of the project. The challenge to using the local context knowledge of the suppliers and market was the lack of understanding that hiring local suppliers influenced local purchasing and local market activities (more than utilising an external supplier would, where improving the local context was not automatically guaranteed).

6.5.3.2.4 Main Contractor's Response

In this project, the main contractor was very experienced in producing housing developments and had the willingness to engage with the client requirements concerning SV. The developer provided data within the construction period to display how they engaged with the local community and employed local suppliers to a satisfactory level. The main contractor hired a community agent to manage how they delivered and captured SV outcomes, which showed to the client organisation the developer/main contractor's intentions towards SV delivery. The developer had SV built into their business model because of previous projects they delivered with public clients where they understood how important SV was for public clients. It was obvious that main contractors who work with local authorities on different types of projects respond better to SV requirements and can successfully transfer them to their suppliers. However, the main contractor's business model had an impact on SV whereby they mitigated financial risks by outsourcing most of their work thereby becoming a virtual organisation instead of directly employing staff and personnel. This was done because of the economic atmosphere and the increased risks of insolvency. As a result, they tried to create SV through the suppliers they hired. This increased the burden on the suppliers because they did not have

the experience or the capacity to create SV and it reduced the number of outcomes which could potentially be delivered by larger more stable main contractors.

The main contractor gained their knowledge and experience of the local context from a construction point of view whereby their design and construction experience provided flexibility in the choices they made for the material or construction elements. Knowledge of available suppliers in the local areas helped the main contractor in making procurement decisions which were influenced by the public bodies they worked with in the way they introduced SV to their projects and how they encouraged their suppliers to deliver SV within their packages. It was ideal for the main contractor to hire suppliers from the local area to reduce costs and improve communication during construction; this was the type of knowledge which only an experienced contractor would know. However, it was not that simple on this project because the existing data about the local market capabilities (which would provide an understanding about the impact of purchasing in the local market) was not available at the beginning of the project. Local context complexity was seen as problematic for the main contractor because it created an atmosphere of conflict whereby the main contractor chose to work with certain groups and not to work with other groups because of how conflicting working with both groups could have been. The contractor in this project used data from previous jobs about local suppliers but this was not enough to utilise the local market capabilities available for different trades. In addition to this fact, because such data from the local authority was also not available, the client and the main contractor felt that SV could have been improved.

The SV manager hired by the main contractor understood what was needed to increase the approval of the project by the local population, He/she knew where certain trades were, which when recruited locally would leave a positive impact on the community and provided a sense of ownership towards the project. After working on the project, the manager who was an expert in SV and community engagement acknowledged that more local investigation about suppliers and needs should have been done to improve the delivery process; however, knowledge about the specific trades and suppliers available in a certain area and whether they were suitable for the project or not required a large amount of effort.

6.5.3.2.5 Supply Chain Behaviour

The suppliers responded to the main contractor's requirements about SV without having a full understanding of it or how it can be depicted. For example, the security supplier provided employment for a local workforce and training to younger individuals without having a full understanding about the added value this created. Hence, the suppliers' responses depended mainly on the main contractor's message and on the quality of how the main contractor communicated with them. The suppliers needed guidance and engagement from the main contractor to deliver suitable outcomes for their project based on its duration and local context.

The large tier 2 supplier who understood SV and invested in it followed the main contractor's guidance and leadership about how SV was perceived when approaching SV. The main contractor's provided percentages for local purchasing or local employment which they were expected to achieve by their suppliers. By default, suppliers had a preference towards working on local projects in the areas where they were closer to their markets and can manage their

project, thus they can deliver local outcomes in their local areas. SV requirements which were local could impact suppliers on occasions where the local authority which required local labour are faced with only short periods of employment without any long-term consistency and if the client had a smaller pipeline of work the suppliers' workforce would not have sustained long term jobs. The main contractor did not include predefined SV requirements when their suppliers were bidding for work. Instead in this project the SV agent investigated the capabilities of the suppliers and what were the SV outcomes suitable for them to deliver and afterwards decided collectively on the deliverables.

On the other hand, the civil tier 2 supplier started including a social element in their bids only recently and before that it was not required by their clients. In the last four years, the supplier started getting asked formally about creating SV whereby main contractors would ask for this as part of their requirements and the suppliers had to comply to win the work. Previous projects which the suppliers in this project were involved in provided the catalyst for SV for the main contractor and paved the way for improvement where the collaborative relationship between the main contractor's and their suppliers (due to previous jobs undertaken together) gained the trust of the suppliers and their engagement in SV. Finally, it was agreed by the suppliers that the SV message did not go beyond the first tier of suppliers downstream from the main contractor because of a lack of resource or capabilities to deliver it. However, it transpired that it was hiring smaller suppliers from the local areas which created values aligned with the client's view whereby hiring from the local markets was an economically viable decision that a supplier took because of the lower transportation costs and because it would be an easier task to manage the suppliers.

6.5.3.3 SV Characteristics

The characteristics of SV outcomes emerged from the analysing the transcripts made of the responses from the interviewees. The ability to define the SV outcomes by the client organisation, the measurement of SV outcomes and the improvement of SV outcomes over time were the characteristics which emerged from the interviewees. Figure 84 shows the subthemes of the SV characteristics as follows:

1. Defining SV
2. Measuring SV
3. SV development over time.

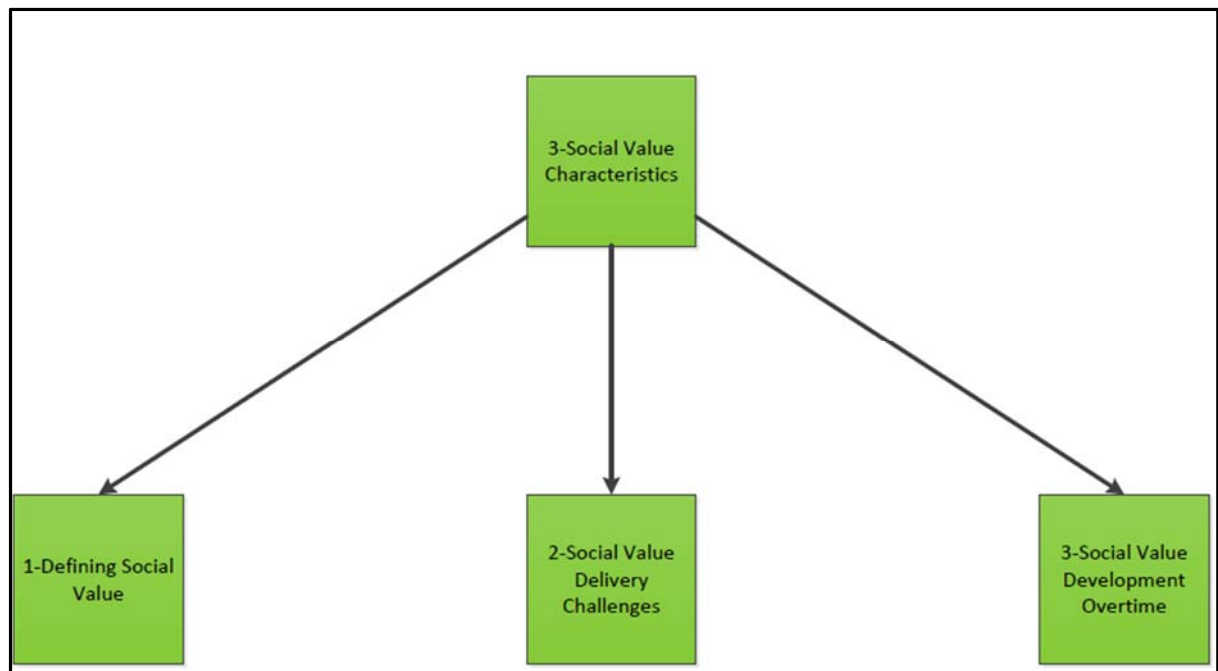


Figure 84 SV Characteristics Subthemes (Case Study Four)

6.5.3.3.1 Defining SV

The client organisation defined SV outcomes (in relation to the services they offered their local communities) in the form of benefits of a socioeconomic nature, such as the creation of training programmes, increasing employment opportunities, and upskilling local suppliers to win more work inside and outside the local areas. The outcomes were linked to the long-term objective of the local authority of having a thriving and healthy community locally in the areas they serve with a big stress placed upon the locality of the SV. Employing companies from local areas does not automatically lead to an increase of economic activities in the local market and further investigation should be made to ensure that local purchasing creates local market engagement, for example, utilising an agent who may appear to be using a local workforce but in reality, is touting for work for external markets. Local suppliers may not always hire locally whereas an external supplier may hire locally because it is economically viable. Also, the main contractor/developer has a role to play in the definition of SV (which is a collective effort and not just a client effort) despite it being led by the client organisation. The developer/main contractor has the experience and knowledge to assist in achieving the best choices suitable for the project and the local community.

Other forms of SV, other than apprenticeships, were depicted by the main contractor as deliverables within the local community. However, local authorities might not recognise such outcomes because of their focus on apprenticeships. In many cases the type of project, the local workforce and/or the supply market nature cannot support the client's requirement of apprenticeship delivery but still the client will develop unrealistic numbers for apprenticeships without investigating the suitability of such numbers. The main contractor claimed that, most of the time, the process of defining SV had no thought process behind it which hindered development projects especially housing development. Local authorities include SV outcomes in their bid documents but without an understanding of the market place where the reality is

different from what they expect in terms of developers' business models and local supply markets.

6.5.3.3.2 *Measuring SV*

Measuring SV has implied that the definition of SV has not evolved enough to the point where a specific number of SV outcomes can be defined early on in the project and then the outcomes can be mapped against this number and accurately tracked. At the current stage of this project measuring the SV impact is still evolving because the project is not at a mature enough stage to accurately report back to the client. Measured impacts have been delivered back to development steering group which could challenge the contractor over their performance, especially if they did not deliver what was contractually required. However, in this project the nature of SV measurement had monetising (which is producing a monetary value to express how much the SV was worth) as the main objective for the measurement. The main contractor on this project invested in an application to measure the impact of their SV on the local community which was an advance over what has been undertaken in this field by other main contractors. To clarify, some of the contractors in previous projects have not been measuring SV as accurately as they should because of the input data not being properly defined. However, the main contractor in this project introduced a new process to measure the impact and to produce monetary values for their impacts.

However, there are no current methods or processes that help tier 2 suppliers with a smaller volume of work to measure their SV impact on local communities for two reasons; firstly, because there is no encouragement from their employers to measure the impacts they create. Secondly, such small businesses do not have the resources needed to invest in such activities which can be challenging for large main contracting developers. Despite developing a new application, the main contractor was aware that the results of the measurement could still be manipulated and that the measurement method could produce false information about the real impact of SV which, in turn, could show exaggerated figures. Accordingly, the main contractor had a moral responsibility to track and measure SV's true impact and to name any negativity to the development steering group. Finally, measuring the SV impact by the main contractor requires financial and human resources and these were provided by the main contractor for the staff members who collected the data and maintained its validity. These staff members invested in the application which was purchased by the main contractor exclusively for the project. All these requirements might not be available for other projects and there are main contractors who would not have the same willingness to invest in the measurement process.

6.5.3.3.3 *SV Development over Time*

The SV perspective of developers has improved over time in terms of them seeing how important it is for them from a commercial point of view which encourages them to assign resources to it. Developers have gained a clear understanding of the impact that SV has on their business models. The local authority interviewees mentioned that developers have improved significantly (from previous projects) in terms of SV delivery and engagement. Recruiting experienced personnel to manage the SV aspects of a business is becoming a more acceptable investment by main contractors and developers as well because they understand the importance these employees have on the delivery mechanism. The whole of the construction industry

(which delivers construction services to public bodies) has evolved since the economic crisis of 2008 which made public bodies realise the importance of SV particularly with regards to its socioeconomic nature. The recruitment of individuals who have bought into the delivery of SV and who have knowledge and experience in that field has made a great impact on organisational culture and on the organisations' internal acceptance of the extra activities which accompany SV delivery.

The need to engage in SV was recognised by the different types of suppliers as a way to win work because they understood that the main contractor preferred suppliers with a vision of SV. Even if the suppliers did not have the necessary resources initially they still can contribute to SV delivery if they understand how to recruit or what the local community needs. The suppliers who were successful in delivering SV understood that market dynamics can impact upon their outcomes which were the reason they used their knowledge of the local context to make viable decisions in selecting the SV outcomes. The client, the main contractor and suppliers benefited from continuous attempts to deliver SV, which builds up their experience and improves how they understand the process of defining, delivering and measuring. The key stakeholders met after the procurement exercises were finalised and discussed openly the areas where they could improve their performance in SV planning and they all agreed that giving enough time to the planning was important and could improve the results the client aimed at achieving. To clarify, early involvement is key to the successful delivery of SV because of the time needed to build up the local profile and gain knowledge about the local context and challenges.

6.5.4 Case Study Four Rich Picture

In this project, the rich picture developed from the thematic analysis represented the reality of the problem situation which included the stakeholders, their relationships and the challenges they faced when working on the project. The rich picture showed that the client organisation understood their role as the leader of the SV delivery and their ability to influence the main contractor/developer in engaging with the local community. Equally, the developer understood, from previous experience with the local authority, that they had the resources and the processes to deliver the client's requirements and how they had managed the design and construction elements to employ as many local suppliers as possible. The local context of the project consisted of local needs and local capabilities whereby the former includes community needs and social challenges and the latter included the supply market capabilities and the available workforce. Hence, the level of understanding of the local context impacts upon SV outcomes. The client and the main contractor/developer clearly understood that early intervention, through investigating and planning, during the pre-procurement and procurement stages increases the possibility of delivering successful SV outcomes for the local communities. Also, during the supplier selection and construction stages the activities leading to the delivery of SV outcomes took place in addition to the measurement of the performance of the project. Finally, the operations stage is when the legacy of the construction project is created and where long-term impacts such as increased employment, reduction of poverty and improved local markets can be felt. Furthermore, the influence of the supply chain members on SV delivery decreases downstream in the supply chain whereby tier 2 suppliers have less influence than the main contractor. Equally, tier 3 suppliers have significantly less influence on the SV outcomes than

tier 2 suppliers. Accordingly, the main contractor had the responsibility of leading tier 2 and tier 3 suppliers into delivering SV outcomes and needed to be able to name the impact of targeting local or non-local suppliers.

Nevertheless, there were five challenges to the SV delivery process which were named in the rich picture and which are discussed as follows:

- The client organisation (the local authority) led the SV delivery process but had to gain information about the local context where the project exists.
- In the rich picture it was clear that the business units did not provide such data in an appropriate time, i.e. before the procurement started which is when this information would matter the most.
- The deliverables (the numbers of local purchases and local workforce) decided upon by the client and the developer had no thorough process behind them.
- There was no known methodology used by the client or the main contractor in producing the numbers of the outcomes.
- Local purchasing and the local workforce possibilities were not investigated properly to understand what the impact of the project on their market would be and whether the design characteristics could be changed to suit the local suppliers.

Moreover, when the main contractor hired the suppliers to deliver construction services they did not have the ability to transfer the client's SV requirements to them and did not ask their suppliers to provide SV, whereby it became a burden on the main contractor to deliver it solely. The perception of what the local and non-local suppliers could deliver in terms of SV was vague; to clarify, non-local suppliers who hired a local workforce and purchased local materials produced more SV impacts than the local suppliers who exported materials and used a low number of employees and thus would produce less outcomes. Despite the project being a generic housing project with design and construction elements which do not require specialist contractors to deliver them, the main contractor did not utilise this to enhance local purchasing. Design and construction elements required further investigation by the main contractor (depending on the construction experience) so that they could manipulate certain elements of the design in favour of local suppliers but the lack of local supplier information hindered that. Finally, the main contractor could not accurately measure the SV impact on their local community accurately because the SV outcomes chosen did not have any thorough processes behind it. The client and the main contractor could not choose a tool to measure the impact of SV because the numbers they produced at the beginning of the project were not properly produced. The suppliers could not measure any impact they had on the local community because of their lack of knowledge and experience in terms of measuring and assessing SV. Figure 85 shows the rich picture of case study four and the challenges the project had.

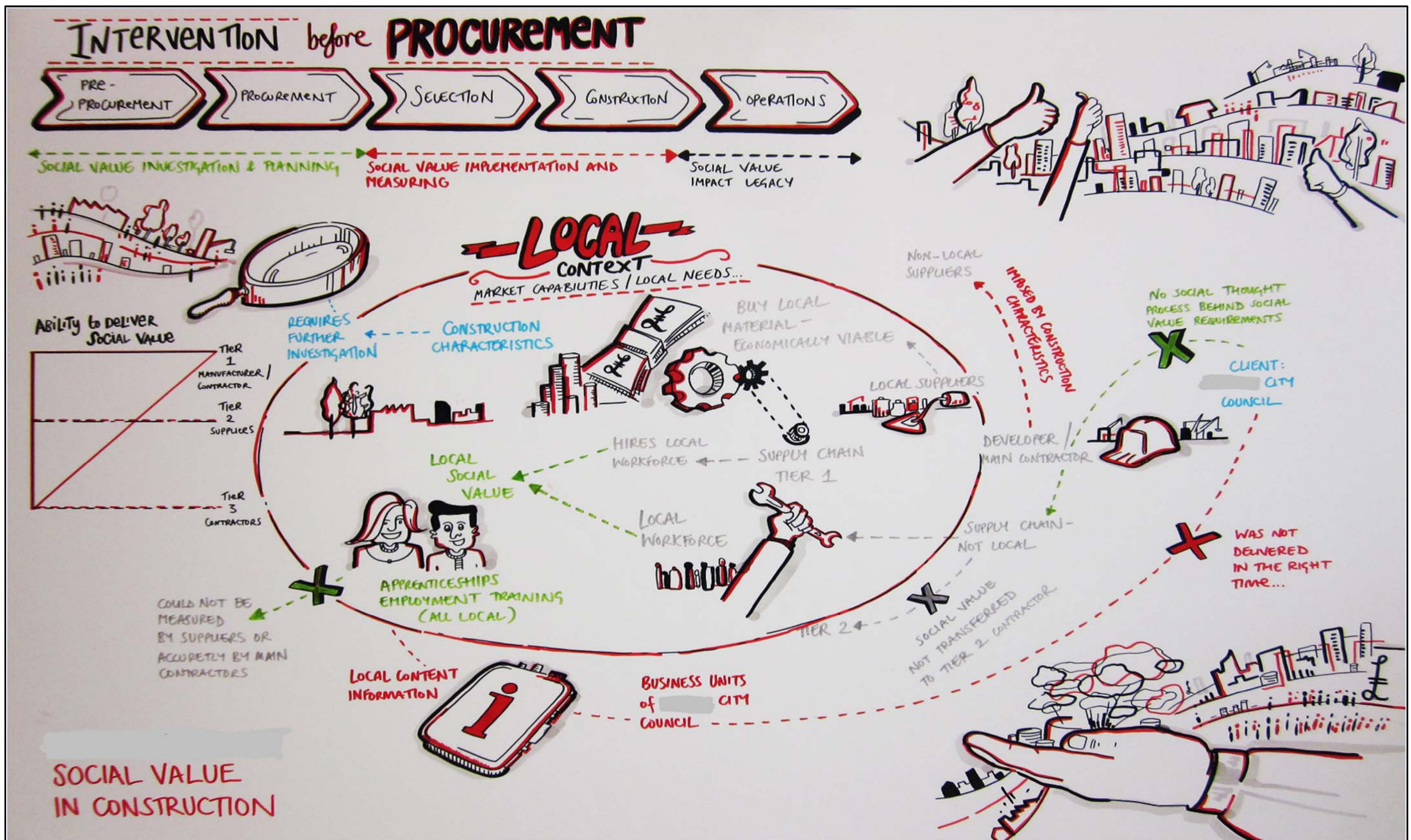


Figure 85 Case Study Four Rich Picture

6.5.5 CPTM and HAS Models

The interview questions designed to develop HAS models were analysed in the below sections to show how the researcher designed a unified CPTM and its subsystems (HAS) models. Each improvement named from the data was transformed into a subsystem within the CPTM.

Improvement model A aims to maintain a systems structure - this improvement names the personnel and staff members needed to carry out all the systems activities and match their skills with the requirements of these activities. The limitation for this improvement model is the human resources.

Improvement model B aims at clarifying the client's SV ask to build a clear direction of what the organisation needs to do to achieve this ask. Clarifying what the client organisation is asking for will improve the engagement of the client's internal staff because they have a clearly defined task to approach where they know what data they need and when. The client could not deliver the information needed to the main contractor on time which limited SV delivery and thus providing a clear outlook on SV early on would improve their ability to formulate the operational requirements of their SV ask. This improvement would benefit the local community because the client organisation will investigate their requirements and produce a clear plan on how to fulfil these requirements.

Improvement model C aims at improving the engagement with the local market through creating a database with information about the available suppliers and their capacities in the local market and assisting the main contractors with in the procurement phase. It was perceived by the client and the main contractor that more data about local suppliers could have increased packages won by local suppliers because they would have been able to approach more of them and invite them to more events for local suppliers. Data about local suppliers was delivered late to the main contractor during the procurement stage which impacted SV outcomes and thus having a continuously updated data base about local suppliers would improve how main contractors could approach the market. This improvement must be initiated by the client organisation because they have the resources and the experience in collecting such data.

Improvement model D aims at improving local suppliers' awareness of the ongoing projects in their local areas (improving the awareness about the construction pipeline in the local area) through approaching local suppliers and guiding them about SV delivery. Local suppliers might not always be aware of the construction projects taking place in their local areas or might be challenged by their inability to bid for these projects which reduces the numbers of local suppliers working on local projects. This improvement was known because the main client pointed out that, local suppliers should be made aware of construction projects taking place in their areas and upskill these suppliers in writing their bids and winning work. This improvement would serve the local suppliers within the limitations of the construction pipelines which would assist the suppliers with winning more work and offer resources to invest in upskilling these suppliers.

Improvement Model E aims at improving tier 2 suppliers' business models within the SV context through the addition of staff members or individuals with the SV experience to the suppliers either through directly hiring them or through the main contractor's assistance. Tier 2 suppliers are challenged to deliver SV and include it in their business model which requires assistance and the introduction of a new perspective to their business. This improvement is constrained by the resources available for the suppliers either to hire a professional individual or the project budget which assisted the main contractor to hire an individual who can manage the supplier's SV performance.

Improvement model F aims at maintaining a systems configuration through naming the long-term goals of the client organisations during the construction duration based on the client being the owner of the whole improvement process.

Improvement model G aims at including the diverse range of constraints in the modelling process and ensuring that all improvement does not exceed the limitations they have.

Root Definition

A system owned by the local authority having development projects and operated by the local authority, their developer, the main contractor and tier 2 suppliers to improve the SV outcomes of the development projects procured by the local authority through increasing their knowledge of the local context which includes the construction suppliers' capabilities in the local market and the local communities' needs in the form of jobs required and the training and apprenticeships' programmes needed. The system serves the local communities under the jurisdiction of the local authority within the confinements of the development project and within the limitations of the local authority's resources (both financial and time) and the local market's capabilities.

CATWOE Elements

T- To improve the SV outcomes of development projects procured by the local authority.

W - Through increasing the knowledge of the local context which includes the construction suppliers' capabilities in the local market and the local communities' needs in the form of jobs required and training and apprenticeships' programmes needed.

C - The local communities under the jurisdiction of the local authority and within the confinements of the development project.

A - The local authority, their developer, the main contractor and tier 2 suppliers.

O - The local authority which has the development projects.

E - The limitations are local authority's resources (both financial and time) and the local market's capabilities.

The CPTM consists of multiple subsystems (HAS models) developed from the interviewee perspectives concerning the improvement of the SV delivery process. These HAS models are

listed below with their root definitions, CATWOE elements and models. (Figure 86 shows the full CPTM model with the subsystems and their activities.) The subsystems aim to improve the current problem situation and overcome the five challenges to SV delivery which are mentioned in the rich picture. The subsystems focus on improving the process of investigating the local supply market context early on before procurement starts and thus providing information to the local authority's procurement business units which can be included in the procurement process.

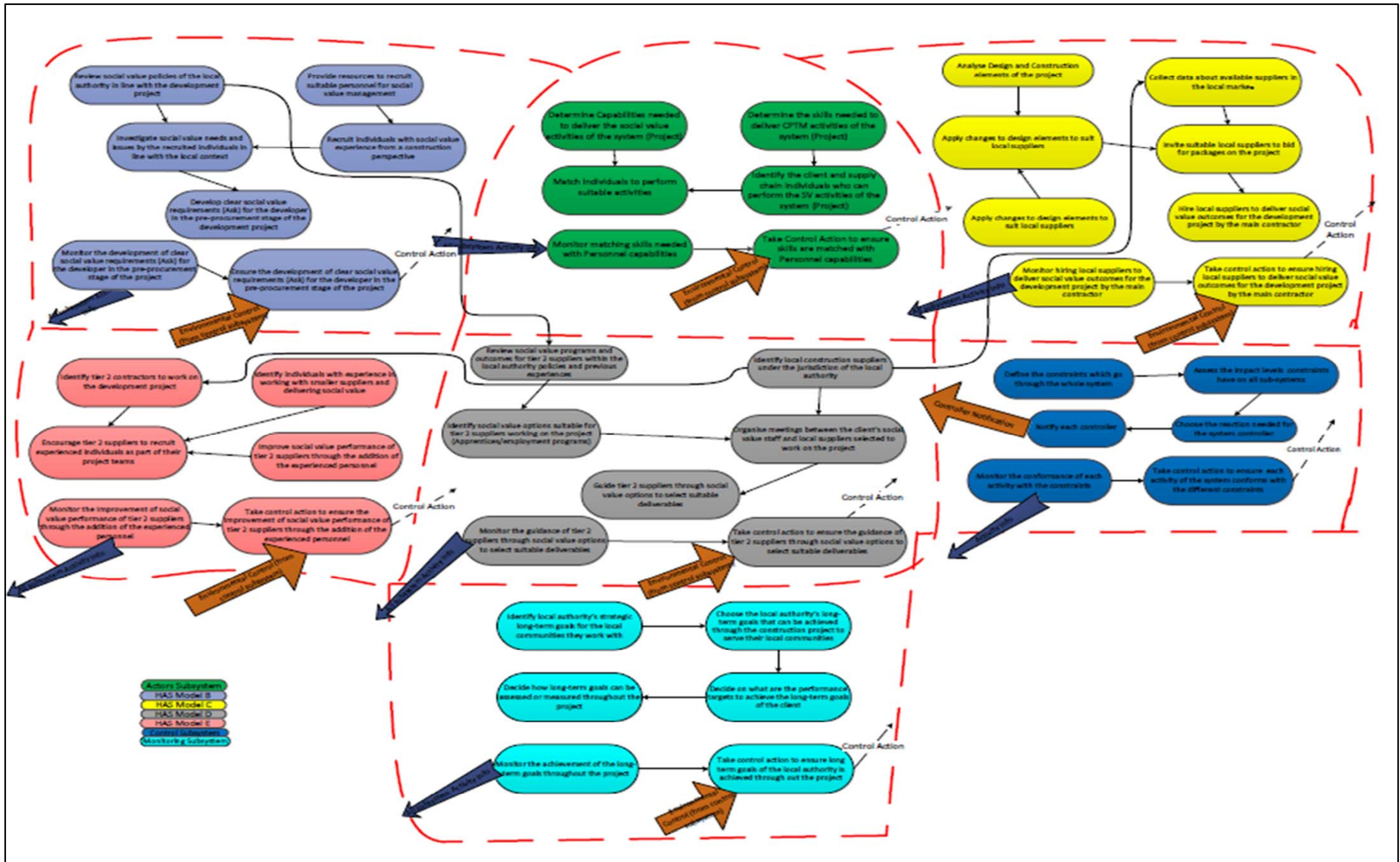


Figure 86 CPTM Model for Case Study Four

Furthermore, the tier 2 suppliers' lack of involvement was among the issues which the subsystems try to solve through surveying the local market and knowing what the condition is of the local market. In addition, because the tier 2 suppliers might not have the experience or the capabilities to deliver SV on their own, the subsystems offer them an improvement in planning and delivering SV outcomes.

6.5.5.1 HAS Model A Actor's Definition Model (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the local authority and operated by the skills and employment, procurement, development, regeneration and sustainability business units from the local authority and the main contractor's organisation to name the actors needed to deliver SV improvement (CPTM) activities through matching the capabilities (skills) of the personnel of the project team available with the requirements of the activities. This system serves the local authority which is delivering the activities of the wider CPTM system within the limitation of the available human resources (personnel skills and experience) (See Figure 87).

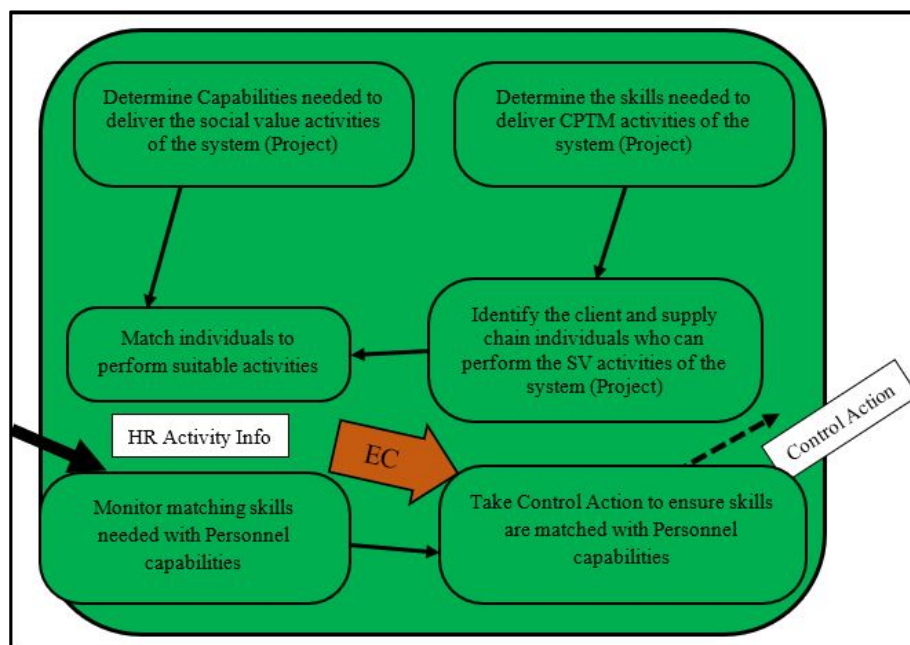


Figure 87 HAS Model A Activities (Case Study Four)

CATWOE Elements

T - To name the actors needed to deliver the SV improvement in systems activities.

W - Through matching the capabilities (skills) of the personnel of the project team available and the requirements of the activities the client organisation names the needed personnel.

C - The regional local authority.

O - The regional local authority.

A - The local authority and the main contractor's skills and employment, procurement, development, regeneration and sustainability business units.

E – The available human resource to perform the activities (personnel skills and experience)

This system names the actors needed to carry out the activities of the whole CPTM and its subsystems. For each subsystem the actors are named independently but in this case the actors' naming subsystem was a subsystem on its own.

6.5.5.2 HAS Model B (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the local authority and operated by the local authority's business units to clarify the SV they can ask for from a developer through investigating local needs and the social issues that might improve from the engagement between the local authority and the local SV needs in the early stages of the development (pre-procurement). The system serves the local community (population) within the limitations of the local authority's capabilities (resources/knowledge/experience) (See Figure 88).

CATWOE Elements

T - To clarify the SV that the local authority can ask for from a developer.

W - Investigating the local needs and the social issues that might improve from the engagement between the local authority and the local SV needs in the early stages of the development (pre-procurement).

C - The local community (population).

A - Local authority's business units

O - Local authority.

E - Local authority's capabilities (resources/knowledge/experience)

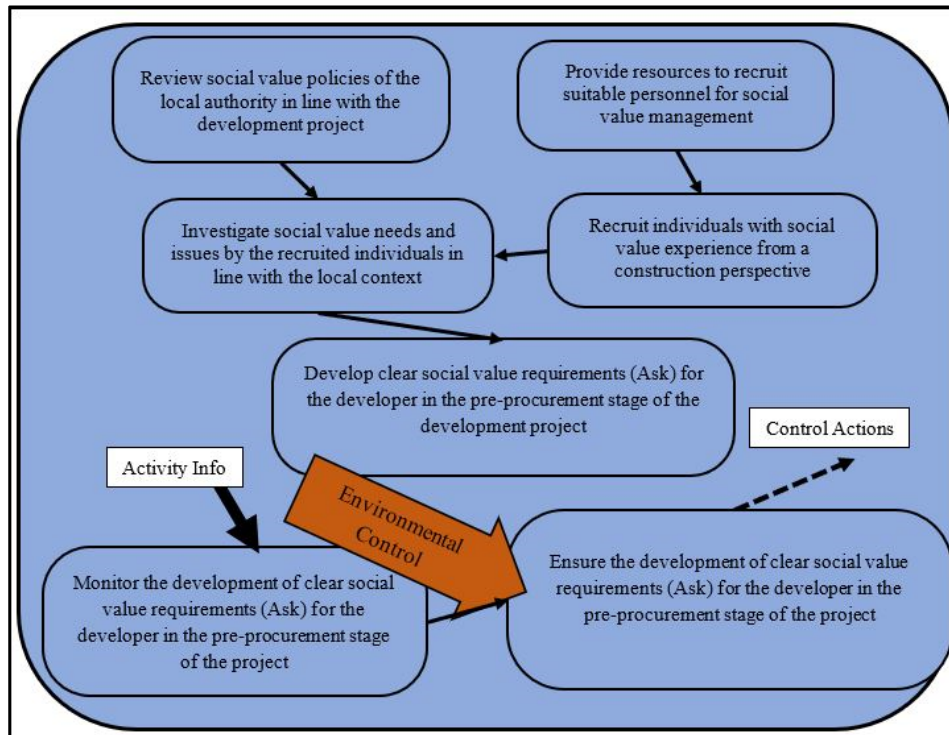


Figure 88 HAS Model B Activities (Case Study Four)

6.5.5.3 HAS Model C (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the local authority and operated by the local authority's employment and commercial business units to increase local suppliers' engagement (employment) with development projects within a local area before the procurement is finalised through building up knowledge about the local construction supply market in the local area and their capabilities to deliver the construction activities within a project. The system serves the local construction supply market within the limitations of the local market capabilities (available suppliers/market value) (See Figure 89).

CATWOE Elements

T - To increase local suppliers' engagement (employment) with development projects within a local area before the procurement is finalised.

W- Building knowledge about the local construction supply market in a local area and their capabilities to deliver the construction activities within a project.

C - Local construction supply market.

A - The local authority's employment and commercial business units.

O - The local authority.

E – The local market capabilities (available suppliers/market value).

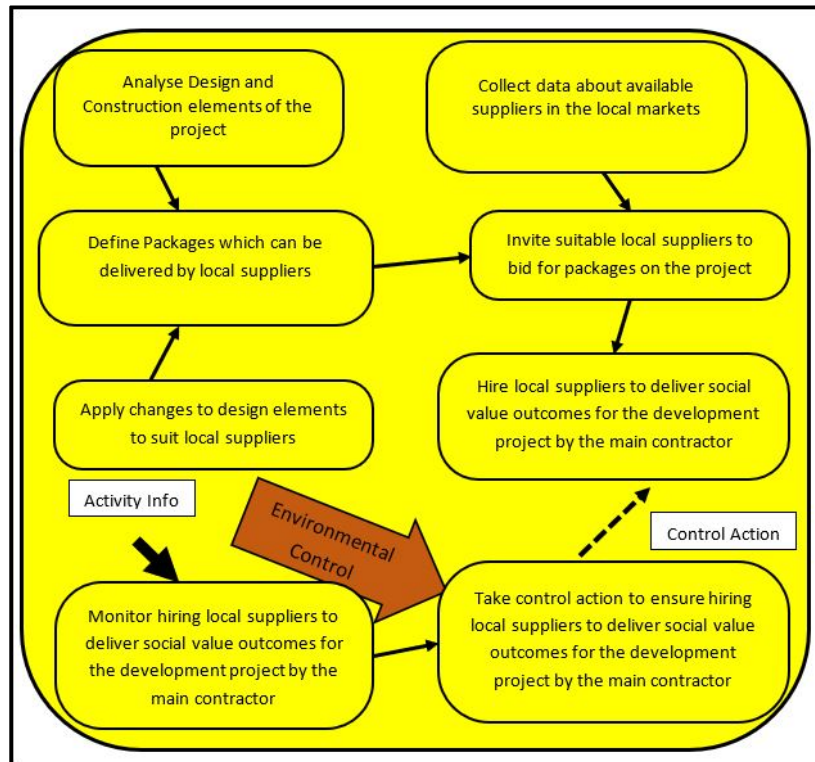


Figure 89 HAS Model C Activities (Case Study Four)

6.5.5.4 HAS Model D (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the local authority and operated by the local authority and main contractor's SV business units to improve tier 2 suppliers' awareness of the SV outcomes options and delivery methods through providing guidance and leadership to the tier 2 suppliers in their pursuit of delivering SV. This system serves local suppliers within the limitations of human and financial resources (See Figure 90).

CATWOE Elements

T - To improve tier 2 suppliers' awareness of the SV outcomes options and delivery methods.

W - Providing guidance and leadership to the tier 2 suppliers in their pursuit of delivering SV.

C - Local suppliers.

A - The local authority and the main contractor's SV business units.

O - The local authority.

E - Human and financial resources.

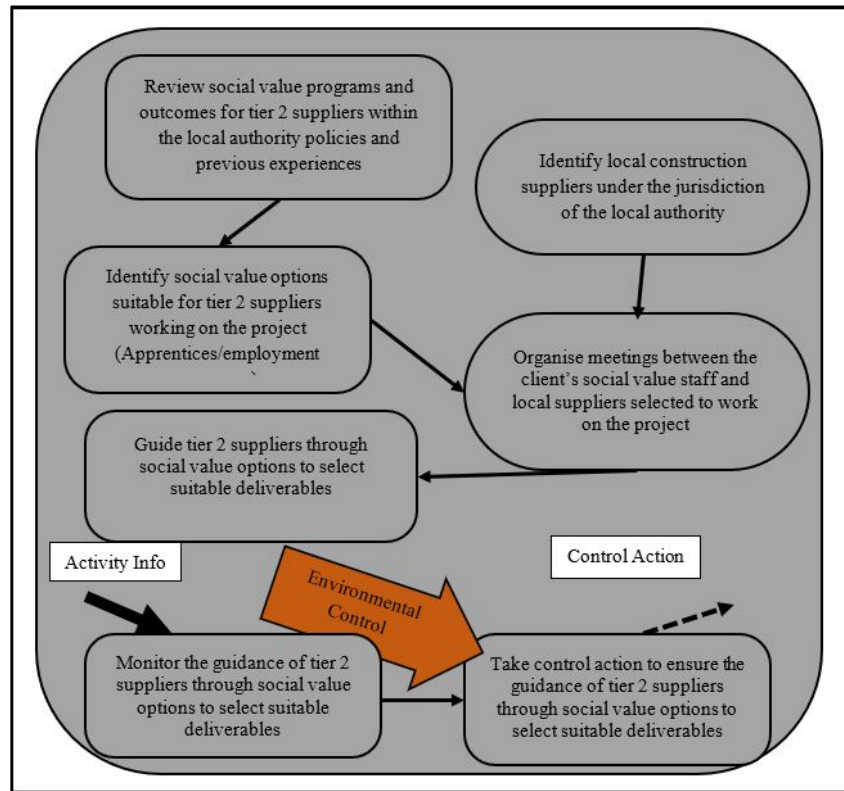


Figure 90 HAS Model D Activities (Case Study Four)

6.5.5.5 HAS Model E (Root Definition, CATWOE Analysis and Model)

Root Definition

A system owned by the main contractors and operated by the main contractors and the tier 2 suppliers' project teams to improve SV performance within the tier 2 suppliers' project teams (to improve their business model) through the addition of SV staff members to the project team to plan, implement and follow up on the development and construction activities. This system serves the tier 2 suppliers within the limitations of their financial and human resources (See Figure 91).

CATWOE Elements

T - To improve SV performance within the tier 2 suppliers' project teams (to improve their business model).

W- Adding SV staff members to the main contractors' and tier 2 suppliers' project team to plan, implement and follow up on the development and construction activities.

C - Tier 2 suppliers.

A - The main contractors' and the tier 2 suppliers' project teams.

O - The main contractor.

E - Financial and human resources.

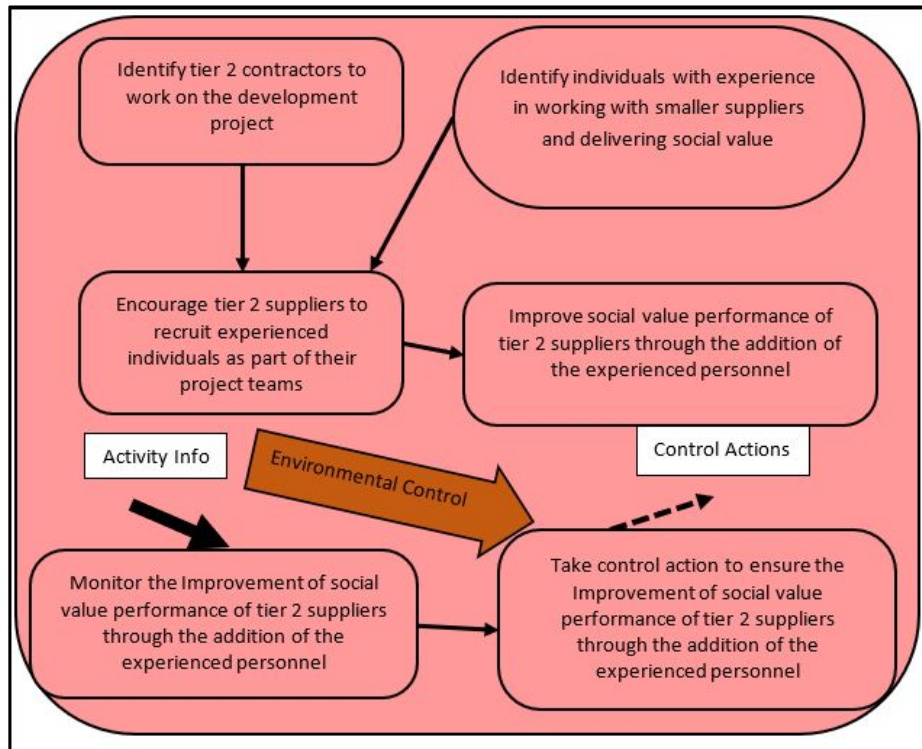


Figure 91 HAS Model E Activities (Case Study Four)

6.5.5.6 HAS Model F for Monitoring (Root Definition, CATWOE Analysis and Model) Root Definition

A system owned by the local authority and operated by the local authority's programme investment board to achieve the long-term goals of the local authority (owner of the system) in terms of SV through naming the strategic objectives of the local authority in serving their local communities and assessing how they can be measured against construction projects' SV performance. This system serves the local communities in the jurisdiction of the authority within the limitations of the local authority's capabilities (See Figure 92).

CATWOE Elements

T – To achieve the long-term goals of the local authority (the owner of the system) in terms of SV.

W – Naming the strategic objectives of the local authority in serving their local communities and assessing how they can be measured against the construction project's SV performance.

C - The local community in the local authority's jurisdiction.

O – The local authority.

A - The local authority's programme investment board.

E - The limitation is the local authority's capabilities.

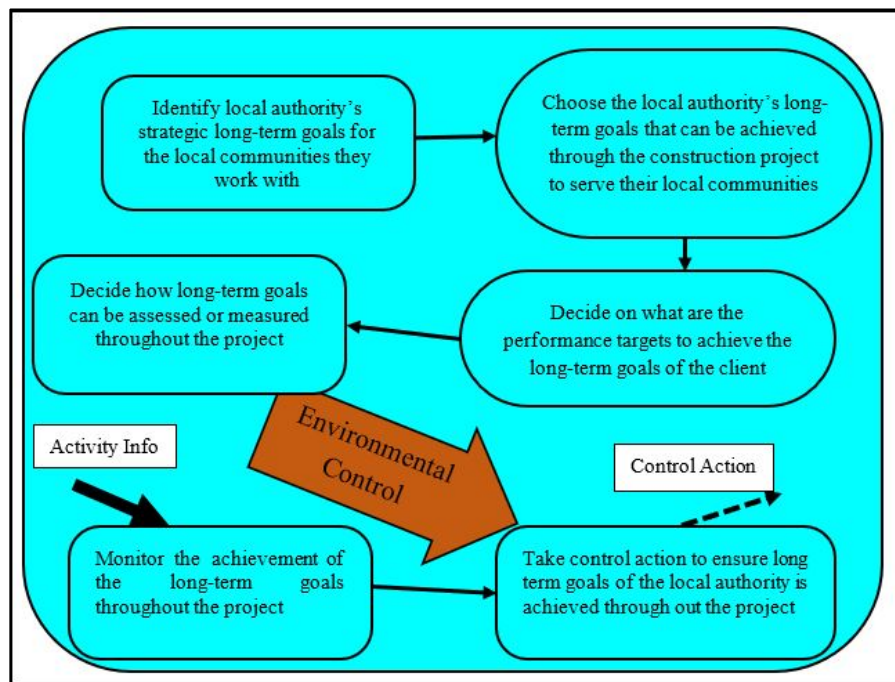


Figure 92 HAS Model F Activities

6.5.5.7 HAS Model G for Controlling (Root Definition and CATWOE Analysis)

Root Definition

A system owned by the private developer and operated by the private developer's strategic management team, to ensure that all activities of the CPTM model conform with the different constraints of the project on the construction project which impact upon SV delivery as perceived by the key stakeholders of the project (See Figure 93).

CATWOE Elements

T – To achieve the long-term goals of the private developer (the owner of the system).

W – Naming the strategic goals for the project's shareholders towards the local communities and assessing how they can be measured against the construction project's SV performance.

C - The private developer organisation.

O – The regional local authority.

A - The private developer's management team.

E - No limitations known.

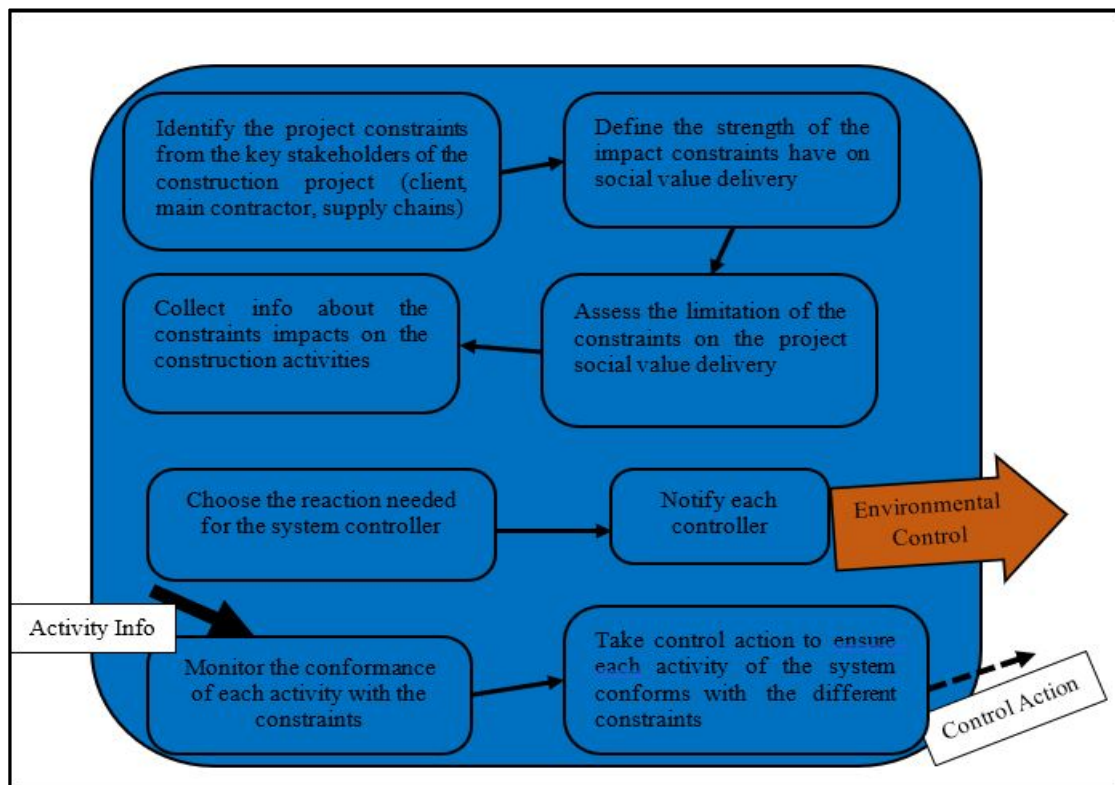


Figure 93: HAS Model G for Controlling Activities

6.5.6 SVAZ

It is clear from the AZ that the local authority, the developer and the main contractor must increase their efforts in the early stages of the project (pre-procurement and procurement) to improve the SV delivery process. Investigating SV policies and developing a clear demand for the development project contains tasks which should be applied before the procurement starts to give enough time for the client to clearly define their needs. In addition, the transfer of information from the internal business units (about the local context in terms of the construction supply market available locally and the local needs such as employment requirements) was delayed and the local authority's procurement team could not therefore include SV in the procurement requirements. Therefore, the AZs include multiple activities to ensure that the data about the local context have been properly developed and transferred to the procurement clearly. Furthermore, improving the inclusion of local suppliers in construction projects was the objective of multiple tasks in the AZ to improve their compliance with the SV requirements, their understanding of implementation methods and in assisting them in terms of delivering suitable outcomes. Figure 94 shows the detailed SVAZ.

Pre-Project Phases					Pre-Construction Phases					Construction Phases			Post Completion Phase		
(Phase Zero) Demonstration of Need	(Phase One) Conception of Need	(Phase Two) Outline Feasibility	(Phase Three) Substantive Feasibility Study & Outline Financial Authority	Hard Gate 1	(Phase Four) Outline Conceptual Design	(Phase Five) Full Conceptual Design	Hard Gate 2	(Phase Six) Coordinated, Design & Procurement & Full financial Authority	Hard Gate 3	(Phase Seven) Production Information	(Phase Eight) Construction	Hard Gate 4	(Phase Nine) Operation & Maintenance		
Review social value policies of the local authority in line with the development project		Provide resources to recruit suitable personnel for social value management		Monitor and take control action to ensure that the development of clear social value requirements (Ask) for the developer in the pre-procurement stage of the project											
		Recruit individuals with social value experience from a construction perspective													
		Investigate social value needs and issues by the recruited individuals in line with the local context													
			Develop clear social value requirements (Ask) for the developer in the pre-procurement stage of the development project						Invite suitable local suppliers to bid for packages on the project	Monitor and take control action to ensure hiring local suppliers to deliver social value outcomes for the development project by the main contractor .					
		Collect data about available suppliers in the local markets			Analyse Design and Construction elements of the project	Define Packages which can be delivered by local suppliers		Hire local suppliers to deliver social value outcomes for the development project by the main contractor							
	Review social value programs and outcomes for tier 2 suppliers within the local authority policies and previous experiences		Identify local construction suppliers under the jurisdiction of the local authority		Apply changes to design elements to suit local suppliers			Organise meetings between the client's social value staff and local suppliers selected to work on the project	Monitor and take control action to ensure the guidance of tier 2 suppliers through social value options to select suitable deliverables						
			Identify tier 2 contractors to work on the development project					Guide tier 2 suppliers through social value options to select suitable deliverables							
						Identify individuals with experience in working with smaller suppliers and delivering social value		Encourage tier 2 suppliers to recruit experienced individuals as part of their project teams							
								Improve social value performance of tier 2 suppliers through the addition of the experienced personnel				Monitor the improvement of social value performance of tier 2 suppliers through the addition of the experienced personnel			
Determine Capabilities needed to deliver the social value activities of the system (Project)				Monitor and take control action to ensure matching skills needed with Personnel capabilities	Determine Capabilities needed to deliver the social value activities of the system (Project)		Monitor and take control action to ensure matching skills needed with Personnel capabilities	Determine Capabilities needed to deliver the social value activities of the system (Project)		Determine Capabilities needed to deliver the social value activities of the system (Project)		Monitor and take control action to ensure matching skills needed with Personnel capabilities			
Determine the skills needed to deliver CPTM activities of the system (Project)					Determine the skills needed to deliver CPTM activities of the system (Project)			Determine the skills needed to deliver CPTM activities of the system (Project)		Determine the skills needed to deliver CPTM activities of the system (Project)			Determine the skills needed to deliver CPTM activities of the system (Project)		
Match individuals to perform suitable activities					Match individuals to perform suitable activities			Match individuals to perform suitable activities		Match individuals to perform suitable activities			Match individuals to perform suitable activities		
Define the limitations (Constraints) which go through the whole system				Monitor and take control action to ensure the achievement of each activity with the constraints	Define the limitations (Constraints) which go through the whole system		Monitor and take control action to ensure the achievement of each activity with the constraints	Define the limitations (Constraints) which go through the whole system		Define the limitations (Constraints) which go through the whole system		Monitor and take control action to ensure the achievement of each activity with the constraints			
Assess the impact levels constraints have on all sub-systems					Assess the impact levels constraints have on all sub-systems			Assess the impact levels constraints have on all sub-systems		Assess the impact levels constraints have on all sub-systems			Assess the impact levels constraints have on all sub-systems		
Choose the reaction needed for each controller					Choose the reaction needed for each controller			Choose the reaction needed for each controller		Choose the reaction needed for each controller			Choose the reaction needed for each controller		
Notify each controller					Notify each controller			Notify each controller		Notify each controller			Notify each controller		
Identify local authority's strategic long-term goals for the local population		Choose the client's long-term goals can be achieved through the construction project to serve their local population			Monitor and take control action to ensure the achievement of the long-term goals throughout the project		Monitor and take control action to ensure the achievement of the long-term goals throughout the project		Monitor and take control action to ensure the achievement of the long-term goals throughout the project			Monitor and take control action to ensure the achievement of the long-term goals throughout the project			
			Decide how long-term goals can be assessed or measured throughout the project												
			Decide on what are the performance targets to achieve the long-term goals of the client												

Figure 94 SV AZ for Case Study Four

6.5.7 Conclusion of Case Study Four

Several perceptions were constructed from the thematic analysis, rich picture building and the CPTM system development following the SVAZ process in case four which reflected how SV was developed and investigated. The following is a review of case four Perceptions:

1. The client organisation led the process of SV delivery whereby they had the political power in the projects and the industry available to deliver their objectives through their procurement decisions, through the types of outcomes they delivered and via the way they transferred their SV message to their suppliers. Clients have multiple challenges when it comes to SV, especially if they are understaffed or do not have enough resources, but they can still achieve their targets because of their bargaining power.
2. The types of SV outcomes were linked directly to the type of client organisation and the nature of their business but, most of the time, clients tend to deliver outcomes with a socioeconomic nature, with the outcomes being local being the main characteristic of SV.
3. Defining SV was the most difficult challenge in the delivery process because the client organisations had no processes or techniques to know what was best for their communities. This resulted in measuring SV as being a vague and unclear exercise because there is nothing available for the client to measure against. The implementation method can be improved through the existence of an SV champion on the contractor's side because such a person would have knowledge of both the construction and the SV aspects of the business.
4. Factors affecting the project were similar to those that were discussed in Chapter five with one difference, namely the influence level between the different factors depending on the client's structure and business model. Project type, procurement approach, local context and the main contractors' and sub-contractors' responses were the main headings of the factors affecting the projects in these case studies.
5. Systems methodology was suitable for this project because of the complexity of them. SV adds to this complexity through the ambiguity of its problem situation, whereby systems conceptual modelling could decrease the conflict between the different stakeholder's perspectives and provide an acceptable level of consensus between them.
6. Early engagement and giving more time for the client and supply chain had a significant effect on the SV outcomes of the project as was shown by case study four. Design options, procurement routes and SV selection are among the issues which can be improved if there is enough time before starting the construction activities to investigate them and to provide a significant thought process behind making the choices in these areas. Additionally, financial resources are important to the delivery of SV in order to offer more investment in experienced personnel and in the purchase of tools which can improve the delivery process.

In conclusion, this case was chosen based on local context being a deprived area within a small local council which placed pressure on the client, the developer/main contractor to deliver socioeconomic outcomes. The design and construction characteristics being a housing project with generic construction requirements which does not require any specific engineering

experiences. The project cost being high which means that resources are available for additional activities needed to deliver outcomes and create value. Funding source being public increased the pressure from local councillors on the client organisation to create socioeconomic outcomes and increased scrutiny on how the decisions were made. In this project the client organisation did not have the portfolio of construction procurement that would allow them to influence decisions about SV because of their lower bargaining power. The client organisation knew that they needed to create SV through outcomes but did not have the local context data especially about the local market capabilities and what suppliers available for this project. The business units suffered from years of budget cuts which did not leave them with business units which can conduct such local context investigations. The valuation market testing was only down for the land value and not the possible socioeconomic benefits they could create. The main contractor/developer on other hand had more information about local market capabilities than the client because of years of working in the area which they utilised for their commercial benefits. They challenged in terms of the lack of communication with the client organisations about the outcomes they needed and how they had to rush into construction without having enough time investigate more. Suppliers were two types a large regional engineering company and a small local security company and were opposite in understanding what SV was and what they needed to do to achieve it. The engineering company engaged with other clients about SV which improved their understanding and enhanced the ability to bid for work which included SV. Oppositely, the small local security firm did not understand what SV meant clearly for the client or the main contractor but understood that they were commercially suitable for the project. This implied that the communication between the stakeholders needed to improve and this was accepted by the client representatives. In this case the client organisation and the main contractor recognised that the situation was problematic and that the situation needed to improve and were in the process of reengaging with the local market given that the project was long in duration. This recognition encouraged them to depict how the situation could be improved which was captured through the SVAZ. The activities developed through the HAS models were based on this recognition. The findings of this case will be further discussed and linked back to the literature in chapter seven discussion section.

6.6 Chapter Summary

This chapter reviewed the intra case analysis of the four case studies which the researcher selected based on the selection criteria from the previous chapter, to examine the propositions which were developed as result of the literature review and amended through the pilot study and finally, developed the SVAZ for each case. The four cases defined the influence client organisation had over the delivery of SV and how their leadership or lack of it influenced the SV outcomes of their construction projects. in addition, it discussed the different external and internal factors which influenced SV in each case variably and built an understanding of how these factors influence the project because construction projects are unique, and a single approach could not be replicated. Finally, the cases used SVAZ process through the rich pictures and the improvements named by the participants of each case to build HAS models, develop functional tasks for each project and plot them against the GDCPP phases for the key stakeholders to reconsider their actions about SV. The next chapter takes forward the research

strategy by conducting a cross-case analysis which leads to the examination of additional propositions to the ones constructed in chapter three.

Chapter 7 Cross-Case Analysis

7.1 Chapter Introduction

In the previous chapter, a detailed intra-case analysis with SSM and GDCPP combined method validation and further examination for the research proposition was carried out and reported in separate case study reports. Hence, the previous chapter provides a first approximation to the research propositions. This approximation will be investigated further within the chapter at hand through a cross-case analysis of the previously discussed cases. Thus, the working propositions based on single cases are now investigated in a broader setting, aiming to replicate them across different settings. This approach was chosen because multiple case studies allow for the development of theories from an abductive point of view, where using multiple case studies and achieving theoretical and literal replications leads to analytical generalisations and would support the development of theory (Eisenhardt, 1989; Yin, 2009). It is argued that this approach has some drawbacks from the perspective of social constructionism that might endanger the validity of the findings reported. These drawbacks originate from the underlying assumption within social constructionism that knowledge is constructed and used within the specific context it is generated in. Hence, it is always time and context-dependent and cannot be generalised across different cases (Lincoln and Guba, 1985). In other words, propositions generated based on single cases are only applicable to different cases as all assumptions depend on the setting they were generated from. Therefore, the attempt of a cross-case analysis seems to be an illegitimate attempt, based on the generalisation of propositions.

However, as Lincoln and Guba (1985) argue within their seminal work, application of working propositions generated within the investigation of an individual context may be tentatively applied to a broader setting if these settings are empirically comparable. In this light, the broadening of the context from which the proposition is used and generated adds a layer of purposive sampling and data analysis and hence adds to the inquiry used for the research. The feasibility of the tentative application of propositions to further contexts depends on the empirical comparability of these settings, as mentioned earlier. The previous requirements were, therefore, met within the current investigation, where all cases were within a narrow geographical setting (within the North West of the UK) as well as being within a short timeframe of three years. Both aspects allow for the attempt of an empirical comparison within a cross-case analysis. Hence, the following chapter may not only be regarded as the tentative examination of the working propositions developed within the intra-case analysis but also as the investigation of the cases are sufficiently comparable to offer such a comparison.

This approach was chosen because the cross-case analysis bears advantages to the impact of the investigation at hand. It provides for illustration of the myriad of factors which contributed to the situations in all the cases, exemplifying not only the overarching similarities between the cases but also the differences that might contribute to limitations of the underlying theoretical arguments. Also, the cross-case analysis has allowed for refinement of the data and contributed to the development of new concepts in research (Khan & Van Wynaert, 2008). Accordingly, the cross-case chapter achieves the theoretical and literal replications of the

propositions through comparing commonalities and differences between the events occurring within the individual case studies. This chapter will be structured as follows:

1. Findings of the Intra-Case Analysis
2. Cross-Case Propositions and Analysis
3. Theoretical Analysis of the Propositions
4. Chapter Summary

7.2 Findings of the Intra-Case Analysis

During the intra-case analysis, several themes were perceived as possible threads for the investigation within the cross-case analysis. These themes were chosen because they fulfil the requirements for a cross-case analysis. Ayres, Kavanaugh, and Knafl (2003) argued that the findings of intra-cases used in the cross-case analysis must be relevant to all cases to provide generalisation through the comparison of all cases. They added that findings could be perceived multiple times from different cases to qualify as a basis for the cross-case analysis propositions. This requirement is fulfilled in the present context, supporting the assumption that they can be applied to multiple settings. Findings from the intra-case analysis were linked to firstly, the SV creation situation and secondly, the CPTM and HAS Models, which client organisations can use to evaluate their impact on SV. Both types were examined across the four case studies.

7.3 Cross-Case Propositions and Analysis

Below are twelve themes which emerged from the intra-case analysis as findings across the four cases from which they were taken and considered as propositions to be examined in the cross-cases analysis. The propositions about SV creation were discussed as follows:

1. Public client organisations have a better understanding of SV and its requirements than private client organisations when procuring construction projects with public money to create socioeconomic value.
2. Larger client organisations, regarding the volume of work, the portfolio of projects and resources, are capable of clearly pursuing SV more than smaller size clients, because of continuous procurement, resources availability and diverse experience in construction projects.
3. Client organisations who assigned SV organisational champions to their projects have control over the procurement process, overcoming SV creation challenges and monitoring project performance.
4. The procurement choices (routes) of the construction projects can influence SV significantly based on the suitability of the relationship and the procurement route chosen, to the project and the client requirements.
5. The project type, with it being part of a multiple project construction program or a single one-off project, influences the longevity and overall impact of the outcomes.
6. The local context, regarding what trades the local supply market offers and what support the local community needs to thrive and improve socially and economically, can increase or decrease the volume of outcomes being delivered.

7. The project design characteristics and construction elements influence the success of the client organisation in targeting groups by the client to be at the receiving end of the outcomes.
8. Engaged supply chains, led by main contractors, can utilise their knowledge and experience in construction projects to be an enabler to the client organisation's SV requirements.
9. A construction project source of funding being all public, private, or a mix, have an impact on the strategic procurement and volumes and types of outcomes.
10. The process of defining the outcomes to be delivered in the construction project is critical to the selection of the outcome types and the success of the project's SV performance.
11. The SV AZ developed as the outcome of the improvement process and maintained by the client organisation embed SV as a core deliverable in construction projects by providing a detailed delivery plan consisting of activities which are carried out across the project stages.
12. The improvement of how the client organisation understands the local suppliers' market capabilities is necessary to plan and deliver outcomes with a socioeconomic nature in their local markets.

These propositions are analysed from a cross-case perspective, to examine the similarities and the differences between the four case studies, as per the selection criteria and its literature in chapter three. At the end of the cross-case analysis, analytical generalisation across the cases is achieved resulting in a validation of the research findings.

7.3.1 Proposition One (Client Understanding of SV)

“Public Client organisations have a deeper understanding of SV and its requirements than private client organisations when procuring construction projects with public money to create socioeconomic value.”

7.3.1.1 Cross-Case Analysis

In the first case study, the client organisation was a local authority and had experience in delivering added value in different types of procurement processes where they could articulate SV requirements, and they had business units with detailed data about the local context (local suppliers and local needs). As a local authority, the client knew how to communicate their requirements through all phases of the project from pre-procurement to the construction, because it was a secondary organisation involved in delivering a diverse range of projects and procurement routes, which enhanced their ability to deliver their objective regardless of the complexity levels of the projects and its requirements.

A local authority provides public services such as education, social care, transportation, housing, leisure, cultural and health services, which provides them with the understanding of the local community needs, which was included as the SV requirements of their construction projects. Public accountability urged the client to include community benefits and added values in their expenditure where the scrutiny on them as a local authority from local councillors encouraged them to deliver a diverse range of SV outcomes, despite the project requiring specialist trades and suppliers.

In case study two, the client was a local authority responsible for their community's social and economic wellbeing, which led them to know in the early stages of the projects, the SV

outcomes (local) their communities required. The local authority had the awareness and experience, from previous unsuccessful programs, to perceive the opportunities a program of projects must boost their influence over the main contractors and create benefits for their local communities. The skills and employment business units with information about local needs and local suppliers' capabilities were involved in the procurement and pre-procurement stages of the program and assisted the program board to manage their expectations and provide realistic expectations to their main contractors and suppliers. As a local authority with elected local government, the program was influenced by election pledges where the delivery of outcomes was among the pledges, which create both a justification for the procurement decisions and a level of scrutiny on whether the pledges were delivered or not. The client knew that one-off projects or arm's length relations with suppliers limited their SV outcomes and then reacted by procuring in bundles to provide a collaborative relationship with the suppliers and have a long-term commitment with them.

In case study three, as a private developer, the client business decisions and their understanding of SV outcomes were significantly influenced by their type of work and their market. The long-term commercial nature of the client's business reduced their consideration on SV delivered through construction because it was significantly shorter in duration compared to their long-term jobs created through their different business. As a private entity with businesses dispersed in a large area, the client was not linked to a specific local community where they interacted with multiple communities which have social needs that are different from each other. Also, as a private organisation, there were only the shareholders who had the maximisation of profit as the goal without having to serve and fulfil the needs of local communities. The developer did not possess information about the local context or needs for the communities; they worked in their areas which limited their understanding about what their construction activities can help solve. Despite hiring a sustainability consultant, the private developer did not utilise their consultant in communicating with the supply chains and used them to improve the display process and not the delivery process of the social element of the business. Finally, the client had a predefined model of delivering social and community benefits based on longer duration commercial activities, which was why the main contractors did not detect the urgency for construction of SV, which stopped the message being delivered downstream the supply chain.

In case four, the client was a local authority developing land with the project, which had a commercial impact on the client concerning the land value and delivering the maximum outcomes from it. Nevertheless, SV was among the core objectives of their development and the message was transferred down to the developer and the main contractor due to the nature of the client organisation. As in case one and two, the client (as a local authority) delivers services with a social nature, such as education, health, social care, and housing, so they understand how construction activities across their region can be utilised to help deliver such services. The client had SV requirements built into the bid documents to ensure that there were minimum deliverables for the project which main contractors could engage in delivering. The outcomes took into consideration the delivery of training and employment which attempted to fulfil the needs of the local community, which suffered from pockets of deprivation and poverty. The local authority delivered previous housing development projects and had the experience of SV through their development. In conclusion, clients of cases one, two, and four,

had a better understanding of SV in terms of community improvement as public clients when compared to clients of case three, which had a different perspective of SV from a by-product point of view, because their main product was maximising profit and creating long-term commercial projects. In case four, the client indicated the shortages of the SV processes they had and were attempting to reduce them. In cases one and two, both clients had the business models and personnel to deliver optimum SV results and ensure that benefits were captured and presented to justify their decisions.

7.3.2 Proposition Two (Client size and Portfolio)

“Larger client organisations, regarding the volume of work, the portfolio of projects and resources, are capable of clearly pursuing SV more than smaller size clients, because of continuous procurement, resources availability and diverse experience in construction projects.”

7.3.2.1 Cross-Case Analysis

In case one, the local authority had an extensive portfolio of construction projects which they delivered annually (exceeding £250 million annually) which gave them a high level of experience in delivering construction, leverage, and bargaining power over their supply chains and a consistent pipeline of work. The client organisation’s vast portfolio of construction projects annually attracts main contractors to work with the client and encourages them to satisfy the client’s requirements, such as the inclusion of training, employment, and apprenticeships. The portfolio of construction projects provided the client organisation with procurement experience in different types of projects where they delivered a diverse range of objectives, such as environmental and social objectives as part of these projects. Also, as a large public organisation with the resources and funding for their capital programs their business units have the capabilities to collect accurate information about the local context (local needs and supply market capabilities). Information, collected by different business units, feeds into the decision-making mechanism of the client in the form of procurement route selection, contract requirements and awarding contracts. Furthermore, these business units were utilised in tracking the progress of SV during construction and helped main contractors and suppliers satisfy the client goals in local recruitment and engaging with local suppliers. Despite the budget cuts hitting the local authority, business units of skills and employment played an essential role in the delivery of SV.

In case two, the client had a program of work for schools with a budget of more than 170 million pounds for the program spanning four years and hence, was a large client with an extensive portfolio of projects. This extensive portfolio extends the duration of outcomes, such as apprenticeships and local purchasing, beyond a single project into moving them between projects. After completing a project, apprentices and suppliers moved on to new projects within the same area which offered them stability and extended periods of business, together with the opportunity to complete their training. Moreover, large programs of work appeal to main contractors, because it provides a consistent and stable pipeline of work where they can plan their work relations on a long term-basis, encouraging the main contractors to comply with the client organisation requirements and aim to satisfy their needs. As a large organisation with resources, they utilised their skills and employment business units to gather data about local

suppliers, carry out ‘meet the buyer’ events and assist smaller suppliers with their recruitment. This resulted in the increased numbers of apprentices, elevation of local purchasing and upskilling of smaller and local suppliers regarding bidding for work with other clients. Finally, the successful aggregation of demand approach led the main contractors to develop a pipeline of their own with other clients to repeat the success of this program.

In case three, the client was a private developer with an extensive portfolio of projects which were constructed to be used in businesses such as retail, residential, leisure, business parks, energy, and utilities. With business exceeding £1billion, the client had an extensive portfolio of projects which matched projects procured by a large public organisation. However, the client did not have the model of linking multiple construction projects together in bundles of work or moving suppliers and apprentices between projects, because their projects were dispersed in large areas of the region. The client organisation did not have sufficient information about the local contexts they work with regarding what value construction phases can add, which is why they did not fully engage with local communities during construction. Because the construction phase of the projects was a short stage of the client’s business, they did not deliver SV outcomes depending on the construction activities and relied more on the long-term commercial activities these projects provide, such as retail, leisure, and utilities. Nevertheless, the pipeline of construction activities and its diversity offered opportunities for the delivery of SV, which was implied by the funding local authority and the suppliers, who indicated that if the client increased their SV requirements, other stakeholders would comply.

In case four, the client was a small local authority without an established portfolio of construction projects where the organisation’s budget shrank significantly because of the 2008 economic crisis, which was followed by budget cuts. Because of the limited resources, the client organisation did not have the capabilities in their business units which could collect the data needed for local community engagement; they could not provide support to their local suppliers and define accurately the types and volumes of SV outcomes suitable for the project being delivered. Furthermore, because the client lacked a sound pipeline of construction works, they did not have the bargaining power over the main contractors or the organisational resources to promote SV delivery and ensure main-contractors were fully engaged with their requirements, because the main contractors were not guaranteed a massive pipeline that they could bid for and therefore were ultimately unable to satisfy the client. Finally, the client did not have an established approach towards SV delivery when defining, implementing and tracking SV due to the smaller size of the work done by the client and limitations they had from an organisational point of view.

Accordingly, client one and two were very experienced in construction project delivery and had decisions which fulfilled the objectives of their projects concerning SV outcomes; so they were able to track and measure the impact they had on the local communities and justify their decisions. Client three was an experienced client in construction and was able to deliver their objectives, regarding the benefits of the construction projects since they had the experience and resources to do that successfully. However, they did not achieve that from an SV point of view, because of their business, but according to their business model, it was business as usual as they planned to achieve long-term socioeconomic benefits for their local communities. In

addition, client three had the portfolio of construction projects to make better decisions concerning SV delivery. Finally, client four was a public client with a small pipeline of work and limited resources, which influenced their SV creation level because internal staff members struggled to plan and deliver outcomes because of the lower volume of work caused by budget cuts and the loss of experienced staff members since the economic crisis of 2008.

7.3.3 Proposition Three (SV Champion)

“Client organisations who assign SV organisational champions to their projects have better control over the process of delivery, in overcoming the implementation challenges and improving the monitoring of project performance regarding SV.”

7.3.3.1 Cross-Case Analysis

In case one, the client organisation could name three individuals within the project organisation as their SV champions - one from the client organisation and the other two from the main contractor. The first individual had experience from a construction client perspective and as a college director to overcome the obstacles facing the delivery process using their experience and political influence in their organisation. A local councillor was another champion recognised during the project which had the political power to influence the client organisation procurement activities in including SV elements through enforcing SV policies of the local authorities and ensuring that they were applied in any procurement activities for the client. Finally, a champion from the main contractor organisation who had the experience of how main contractors could deliver SV through their jobs varying by responding to SV requirements in bids, upskilling local suppliers in SV delivery, increase local purchasing percentages and delivering sustainable outcomes for the local community. This champion had both the operational construction experience and the position in the project to play the role of a champion with an impact on the operational level of the project. All champions in the project had the personal belief of the importance of SV being part of the construction project where their values were the drive for them to challenge current models and overcome obstacles to deliver SV.

In case two, the client organisation's leader played the role of the SV champion for several reasons, firstly, his background as a social worker influenced his beliefs in the importance of public agency engagement with social issues. Secondly, in the election process, the individual made pledges to deliver SV outcomes through this specific construction program which motivated him to follow up on the pledges and ensure they were achieved. Thirdly, the champion was from the local area and had a historical understanding of problems in the local communities which SV can often reduce. As the leader of the organisation, the champion influenced high level (strategic) decision-making, sent a clear message of the importance of SV to the organisation and its leaders and established the concept for main contractors on how construction success only is not acceptable. Different stakeholders indicated that the leader was the champion of SV across the program of work which influenced the outcomes on all levels where the client organisation itself improved their performance in pursuing SV because of the champion's leadership. The organisational champion's direct involvement in the program decision-making and his clear message regarding the importance of local SV triggered a sense of ownership of the tier 2 suppliers towards these projects which improved their responses

towards SV requirements. Finally, main-contractors adapted their approach to projects and SV delivery to suit the strategy adopted by the client organisation under the leadership of the champion which reflected the importance of SV in construction projects.

In case three, no one was recognised as an individual with power or influence over the project for SV delivery, nor did anyone assume the role of an organisational champion for it this can be caused by the lack of experience with SV from a construction point of view. Also, there was no one with the ability to relate to the local community because the client organisation did not belong to a specific area which detached them from local contexts. Because the client was a private developer, information about local community needs was not readily available, as a result, no internal individuals from the organisation could fully understand the local community needs and how their construction projects could have fulfilled them. Regarding the main contractors, they did not assign an SV champion who could lead the delivery from their point of view because the message sent to by the client was not rigorous enough to need a different approach from their business as usual. The SV demands in the contract were not challenging enough for the main contractors to assign an individual to manage them and overcome any organisational challenges to achieve successful results.

In case four, there was no specific individual in the client organisation who championed the delivery of SV at the time of the procurement and initial construction activities, but during the development of the case, there was an individual who started championing SV for the client organisation. The client recognised that they needed this individual to champion SV because they needed to improve the outcomes of their projects and the individual had the personal interest to take on the role. The lack of consistency of construction works within the client organisation meant that they could not name an individual who could act as the champion of SV. As for the main contractors, they hired an individual with the personal drive and experience in SV but did not have enough political influence in the project and the main contractor's organisation to be described as an organisational champion. Despite this, at least the organisation was willing to provide this individual with the power to influence the decision making of the project in favour of SV delivery.

Accordingly, in cases one and two, SV champions were known clearly by clients, main contractors, and tier 2 suppliers, where these champions impacted the delivery of SV on several levels. In case one, the champion worked at a strategic level with influence over the client's strategic objectives and policies. In case two the SV champion had the mid-level management duties with experience on what the needs and how suitable the types of SV outcomes to the construction project were, which was used to reduce the gap between the policies and what the client could practically demand. The case two SV champion had an operational level role with experience in transferring the bid demands into functional outcomes; lead tier two suppliers in delivering SV outcomes. In cases three and four, SV champions did not exist; stakeholders could not name any individuals who played the role of the organisational champion who could overcome the barriers and challenges with their organisations.

7.3.4 Proposition Four (The Procurement Route)

“The procurement choices (routes) of the construction projects can influence SV significantly based on the suitability of relationship; the procurement route was chosen, the project and the client requirements.”

7.3.4.1 Cross-Case Analysis

In the first case study, the procurement for the project was made through a regional construction framework with a two-stage open book procedure where the client chose this approach, strategically, early in the pre-planning stage of the project because it was suitable to the project circumstances. The project is an English heritage project with a high level of uncertainty, long construction durations and socioeconomic added value required collaboration between the client and main contractor which the framework partnering agreements offered and supported. The heritage element of the project required early involvement in the design stages and late budget finalisation which was offered by a framework through the mini competition to fulfil the former and then the second stage of procurement where the client and the main contractors sign the construction agreement and finalise the budget to fulfil the latter. In addition, the mini competition procedure offered the flexibility needed to add bespoke SV questions in the bid document and equally be EU compliant where the mini competition is a central feature of the framework agreement. Finally, the main contractor procured in a similar way to the client to ensure a collaborative culture and the long-term commitment with their suppliers which supported the involvement of the suppliers downstream the supply chain in SV delivery and yielded optimal results.

In the second case, the construction program was procured through two frameworks (a regional and a national) where both frameworks provided early planning of SV through the flexibility; they offered in terms embedding requirements in the procurement process. The decision to bundle the projects into a program of works required a procurement choice which could accommodate such an approach and frameworks were the most suitable choice for the projects. With a large pipeline, the client decided to procure through frameworks because they could link the SV outcomes of multiple projects together and transfer them between projects through partnering with main contractors who are partners in the frameworks. The early involvement in the design decisions by the main contractors offered the client and main contractors time to change some design decisions to suit local market capabilities and improve local market benefits. The framework agreements offered a flexible approach towards contract selection where clients chose a contract which accommodated partnering with the main contractor to share pain and gain because framework agreements in a partnering high-level agreement clients and contractors choose the type of contract which supported their needs. Finally, SV requirements were considered when choosing the procurement route; thus, SV delivery was enabled by these procurement choices which supports the argument that the procurement routes influenced SV.

In case three, the procurement route chosen was the traditional open tendering public procurement approach although the client was a private developer, where the client usually did not choose this route of procurement. The main contractors delivered SV requirements which were included in the deliverables of the procurement procedures successfully. This

procurement route was chosen to comply with the legal requirements of the lending regeneration agency and local authority where the regeneration agency conditioned the loan of public money with a traditional procurement route to guarantee fair competition. Nevertheless, SV delivery was not taken into consideration when the procurement route was chosen by the client or the developer, and this impacted the performance of the project in SV delivery. Also, the procurement requirements between the client and the main contractor were not extended downstream the supply chain with the suppliers because the client did not promote such an approach to the main contractor. As a result, the SV delivered did not reach its full potential because it was limited to the outcomes delivered directly by the main contractor and the procurement choices did not assist or facilitate SV delivery beyond the main contractor. In conclusion, SV outcomes were not taken into consideration when the procurement route was selected, which resulted in the inability of the client to utilise the procurement route in supporting and improving the delivery of SV.

In case four, the project was procured through a construction framework developed for housing and residential projects. The client took into consideration SV outcomes when they chose the framework to procure the project because it was flexible enough to deliver a bespoke social element and be OJEU compliant. The framework offered long-term partnering between the client and the main contractor to accommodate the long duration of the project and provided a platform for collaboration between both entities. This atmosphere was created to support the delivery of SV which requires long-term commitment and collaboration to be successfully delivered. However, despite the procurement route being equipped to deliver SV the lack of information about the local context hindered the ability of the client to utilise the advantages of the procurement approach because they could not define the suitable outcomes needed through their project. The main contractor did not extend the SV requirements to the suppliers or use the same procurement approach of partnering with them because they could not define SV outcomes suitable for the suppliers' trades and capabilities thus, did not utilise the procurement route fully. In conclusion, SV outcomes can help deliver SV outcomes but will depend on other factors to deliver optimal results and use the full potential of the construction project. All of the above showed that construction frameworks assisted the clients in delivering outcomes which were proven right in cases 1 and 2 but was not successful in case 4. Clients 1 and 2 approached the frameworks with an understanding of their capabilities and what the frameworks added to their projects; whereas, in case four the client did not have the resources or the experience to utilise the framework they procured through to yield better SV outcomes. In conclusion, procurement routes cannot automatically guarantee SV but can act as an enabler for SV delivery, being conditional on the client experience and capabilities in utilising the options procurement routes offer for improved delivery.

7.3.5 Proposition Five (Single Project or Programme of Work)

“The project type, as part of a multiple project construction program or a single one-off project influences the longevity and overall impact of the SV outcomes.”

7.3.5.1 Cross-Case Analysis

In case one, the project was a high-value single project and had the construction duration of more than three years, and thus the client chose to procure it through a regional framework to

guarantee collaboration with the main contractor and a long-term commitment. Nevertheless, the project was not part of a program or was not linked to other projects from the client or procured by the different clients through the same regional framework which makes a project a one-off project despite its high value. Concerning SV outcomes of the project, neither the client nor the framework organisations were able to extend the outcomes of the project beyond the outcomes they delivered within the duration of the project where most of the apprentices finished their training in the project and were released. In addition, the client organisation did not have a specific or clear plan to move local suppliers on the completion of the project to other projects of the client. Despite that, some suppliers moved several apprentices to different projects after the completion of their work; however, it was not adequately planned or tracked by the client or the main contractors. In conclusion, the SV outcomes delivery in this were successful, but most were not sustainable beyond the construction duration because it was a one-off construction project.

In case two, the project was among a program of multiple projects where the projects from the outset were linked together through the same client who procured a bundle of work with the program spanning longer than four years. This aggregation of demand enabled the client to deliver SV outcomes and move them from one project to another. This approach made them sustain most of the apprentices and offer them career opportunities within the program and employ local suppliers on multiple projects to maximise the benefit to the local economy due to the continuous and consistent activities of the local suppliers and their staff members. Main contractors and suppliers managed the head to tail activities which were difficult, but it was doable where both entities displayed their ability to manage apprentices, local suppliers, and trainees across multiple projects. The client perceived the opportunities of better SV delivery associated with creating a program of projects, can hold where single projects and their values had limited abilities to deliver sustainable and consistent outcomes if they are bundled and managed as a single package. The projects were suitable to create a program because they were near each other which made the transition of projects' beneficiaries easier. In conclusion, bundling projects hold great potential to improve SV outcomes but requires extra efforts from the client, the main contractors, and suppliers to apply it successfully.

In case three, the project was a one-off project with a short duration, initially, and the high value of construction of a transportation infrastructure facility. The client being a private developer, procuring an infrastructure project did not have other projects with the same nature to link their project and extend their SV outcomes beyond the construction duration. The project had specific design and construction elements which could be duplicated easily in other projects across the country. It would have been challenging to move apprentices and local suppliers delivering specialist work to other projects if these projects did not have the work for these specialist trades. In addition, the client's business model creates long-term socioeconomic benefits through the commercial venues they own which were why they did not bundle their projects or aggregate their demand to deliver improved SV outcomes. As a result, the outcomes were limited to what was in the bid document, and the client could not move such beneficiaries to other projects because their portfolio did not have projects with the same nature and did not have projects in the same area which could have been linked to this project. In conclusion, the project circumstances were not suitable to be part of a program of projects due to its nature and

the client's business model; nevertheless, SV beneficiaries could have benefitted from having extended periods on other sites whether for training, business or education.

In case study four, the project was a single project with a long duration of up to eight years, distributed on multiple phases and with a high value, to mimic the behaviour of a program of work with bigger packages of work and guaranteed longer durations on site. The project was procured through a construction framework which provided a platform for long-term collaboration between the client, the developer and the main contractor to extend outcomes beyond the first phase of the project where apprentices, local suppliers, and employees from the local areas could move beyond the completion of phase one to other phases. The SV outcomes of phase one were not as successful as the client, and the main contractor aspired. However, the multiple phases of the project, acting as a program of multiple projects, provided an opportunity for the client and main contractors to improve their SV delivery which was planned in new phases through collecting more data about the local suppliers and the local workforce. In conclusion, the extended project of up to eight years, the multiple phases and the procurement approach created a programme-like project, which would help them, even if theoretically, to improve their SV delivery and outcomes.

In case one, the project was of high value, with a longer duration, and with specific design elements, making it difficult to be procured through a program of work because there were no matching projects available to create the program. Accordingly, despite the success of SV delivery in the project, the client could not extend the impact of these outcomes beyond the initial construction duration or move beneficiaries such as apprentices and suppliers after the completion of their work. In case two, a program was developed because multiple projects existed in the same area, with matching characteristics to achieve construction programs benefits and move outcomes across multiple projects. In case three, the project was of high value and had technically demanding characteristics and was procured by a private client who did not have the business model or the pipeline to create a program of work. Finally, in case four, the project was procured through a framework and had the repetitive nature of its components with a longer duration which offered the benefits of having a programme where, despite the lack of satisfactory results, the client and main contractor planned to utilise their long-term relations to improve the SV outcomes in future phases.

7.3.6 Proposition Six (Local Context)

“The local context, in terms of what trades the local supply market offers and what support the local community needs to thrive and improve socially and economically, can increase or decrease the volume of SV outcomes being delivered.”

7.3.6.1 Cross-Case Analysis

In cases one and two, there were similarities in the local contexts of both projects, as both clients were able to name the capabilities of their local markets and utilised the knowledge of their main contractors to improve local engagement. In case one, the client had a clear understanding of the local demography and articulated what the local community needed regarding sustainable apprenticeships based on that. In addition, main contractors defined the trades which they could procure from the local market and were able to analyse construction

elements to improve local purchasing procurement. In case two, the client had information about the local suppliers and the local needs and was able to influence main contractors in delivering high percentages of local purchasing. For local communities, the skills and employment business units understood the local problems and challenges and provided the main contractors with expected engagement plans and a volume of SV. Both clients were large local authorities with the resources, experience, and capabilities to explore the local context and utilise it to improve SV outcomes, as they were able to utilise their knowledge about both the demand (local needs) and the supply (local market capabilities) sides of local context.

In case study three, the client was not a public organisation, so they did not have any information about the local market capabilities and what the local needs could be, due to the lack of knowledge. Because the client was a private entity working in multiple regions, by default, they did not have specific knowledge about community needs, and because they were a secondary client, they did not possess information about local construction suppliers which limited their ability to articulate local context requirements in their bid and procurement. Main contractors knew local suppliers, and they delivered local purchase, but the volumes of local purchasing could have improved if the client demanded it. Local community needs, developed by the business units of the public partners, were added to the bid document by the public lender who demanded some local jobs and apprentices and the main contractor delivered them. Nevertheless, the local context was not utilised to deliver the full potential of the project where the client could have applied improvements to the local community requirements if they had the right information about local context before going to the market.

In case four, the client organisation was a public client serving a specific area the client had information about, so the local needs (which forms one element of the local context) were understood, concerning the social challenges in the area and demands of the local communities. However, the client organisation did not develop the local market information, which would help them achieve the local purchasing targets, at the right time of the project because of the lack of resources. Local context information was not used in due time at the preplanning stage when the client could have influenced the procurement requirements and define more SV outcomes that the main contractors would then have delivered, and which would consequently have had a better impact on the local community. In conclusion, despite the local context having an impact on the performance of the client organisation and the SV outcomes of the project, the lack of resources and capabilities by the client due to the lack of data, time to plan and the limited numbers of in-house experts who could translate the data into deliverables. As a result, the project's SV was considered less successful.

Despite the importance of the local context, client organisations often develop their procurement strategies with insufficient data about local market capabilities and how this information can be used to solve local challenges, which negatively influences the outcomes of their projects. Information about local suppliers' quality of work, trades, productivity rates, and prices against other suppliers is critical to the planning of SV outcomes of procurement projects. Thus, successful client organisations go through many challenges to collect data about supply and demand elements and analyse it to create a full understanding of the local context. Also, to improve SV locally, client organisations must know how important local context

knowledge is among other factors for the procurement processes (Warner, 2010). To conclude, in cases 1 and 2, the client organisation had a good understanding of the local context of their communities from both perspectives - the supply market capabilities and the local issues to deliver satisfying results. In contrast, in cases 3 and 4, both clients did not have the data about the local context that would have influenced the SV outcomes delivered. The client of case 3 was a private developer with a business model that did not support such an approach, and case 4 did not have the resources to collect and analyse the data about local context.

7.3.7 Proposition Seven (Design and Construction Characteristics)

“The project design characteristics and construction elements influence the success of the client organisation in targeting groups by the client to be at the receiving end of the SV outcomes.”

7.3.7.1 Cross-Case Analysis

In case study one, the project had specific construction and design elements because it was an English heritage project which required specialist design and construction trades. Some of these trades were only available on a national basis which added an element of uniqueness to the project construction and design components. Nevertheless, as per the client’s leadership and the main contractor’s engagement and experience, they were able to analyse these specialist elements and break them down into more generic elements and upskill local suppliers to increase their volume of work on the project. The main contractor used an English heritage consultant who helped in qualifying generic contractors from the local market to work on the project as an accredited heritage supplier, through improving their skills and providing them with the knowledge needed for the project. This supplier also upskilled their staff and individuals on how to deal with heritage projects in taking part in this project and be able to improve their employability by adding this experience to their overall work experience. This process was successful because the main contractor aimed to increase the SV outcomes by increasing local purchases to satisfy the client which made them invest in up-skilling local suppliers and their staff to have English Heritage accreditation and work on the project, increasing local purchasing volumes. In conclusion, despite the project design elements and construction components being unique, the further analysis provided more SV outcomes and local suppliers’ engagement, which meant that design elements could provide an opportunity to increase SV outcomes if analysed and broken down into smaller elements.

In case two, the client procured a series of school projects which as a construction product did not have specific design or construction requirements concerning materials, construction methods or specialist trades. The client led the supply chains to deliver SV outcomes in the form of local purchase and demanded that the program act as a platform for local economic growth. As a result, the main contractors analysed the construction elements which they were delivering in the projects to calculate the amount of local purchase they provided and indicated that a specific trade was not available in the local market. This encouraged the main contractor to investigate and look for a local replacement to construction components which could provide the same quality, increase the local market engagement and improve local purchasing percentages, and subsequently they were able to find a local replacement. The main contractor and the client changed their construction elements and procured this trade locally which did

not compromise the quality of the end product but improved local engagement significantly. Accordingly, it was clear that despite the project having generic design and construction elements which are available across the country, further investigation to the local market and design analysis implied that certain construction elements could be replaced by different types of products or materials without risking the quality levels of the product, yet they improved the local purchasing levels.

In case three, the client procured a transportation infrastructure project with specialised engineering solutions and required high technical suppliers who could not be easily named in the local market where the project took place. The client and the public party made sure they included SV requirements in the bid document which was enough for the client business model and requirements. The client did not further investigate the local market or analyse the construction and design elements to increase SV opportunities, because their business model, experience and knowledge were different from public clients regarding extending local benefits. Nevertheless, the main contractors, for economic reasons, procured from local markets as much as possible to reduce the cost of transportation and improve the communication with suppliers, but did not do this to improve SV outcomes because they already delivered the required outcomes. The client, the public lenders and the main-contractor did not replace any of the specialist engineering elements of the project to increase local engagement based on the argument that deskilling the market would benefit local suppliers, since they would not be able to compete for work if they did not innovate and adapt their business models to the changing markets.

In case four, the client was developing a housing project which had a long duration, where the construction product did not have any specific elements which would require specialist contractors. Because of the lack of information about local markets and the available suppliers for the most generic trades, the main contractor could not decide whether all the trades they required were available locally or not. Accordingly, it was believed that further analysis or breaking down of the construction elements would provide the right impact unless there was information about the local supply market to accommodate it. However, it was realised by the client and the developer that future phases of the project would include an element of the design analysis or breakdown and surveying local suppliers who could improve the local purchasing volumes. The client plans to collect data about local suppliers and understand the trades which can participate in the projects based on the components and design analysis. In conclusion, despite not analysing the design and construction elements the client and the main contractors recognised the importance of design and construction analysis and elements break down which could improve SV delivery to the local communities' local market through improved percentages of local purchasing and stimulating local economies. In conclusion, in case one and two the clients were aware of design analysis impact on boosting the procurement in the local markets where the contractor's involvement increased the creation of SV locally without risking the quality of the build under the supervision of the client organisation. In case 3, the client organisation could not influence the design because they lacked the experience in such infrastructure projects. Still, the main contractors procured locally because of the economic benefits which created local benefits but was not pre-planned. In case four, the project design and construction elements were generic without any specific requirements with both the main

contractor and client being aware of this but could not improve the local benefits because the client lacked the information about local suppliers.

7.3.8 Proposition Eight (Main Contractors and Suppliers Engagement)

“Engaged supply chains, led by main contractors, can utilise their knowledge and experience in construction projects to be an enabler to the client organisation SV requirements.”

7.3.8.1 Cross-Case Analysis

In cases one and two, the main contractors played a critical role in the success of SV delivery by fully engaging with the client requirements and adopting a proactive approach towards the community needs. The main-contractors used their knowledge of local markets to interpret the requirements of the client into deliverables based on their knowledge of available local suppliers from their previous experiences. Both contractors in cases one and two understood clearly the importance of SV to the clients and were able to embrace their requirements and utilise their innovative natures to deliver as much SV as possible. In case one, the main contractor used their construction experience and broke down the heritage construction elements to increase the involvement of local suppliers and help them in being certified heritage suppliers. In case two, the main contractors used their knowledge of the local markets to avoid some construction elements which were not available in the local supply market. Furthermore, both main contractors transferred the SV message to their suppliers to increase the volume of outcomes they delivered for the client, where they assisted and guided; smaller suppliers towards recruiting local employees and apprentices and encouraged larger suppliers to increase their engagement with the local communities. In conclusion, in both cases the main contractors’ engagement to achieve their SV objective was met successfully where the level of success would not have been achieved if the main contractors were not fully engaged with the local communities.

In case three, the main contractor was a JV between two large, experienced organisations who were experienced in a diverse range of construction projects. The main contractor won the bid after demonstrating their experience in satisfying previous customers and delivering their objectives which included SV outcomes. The client in case three added SV requirements to the bid documents which the main contractor responded to during the procurement process providing suitable answers for how they deliver such requirements. Nevertheless, the communication about SV was not pursued by the client and did not encourage the main-contractor to engage with the local community due to not having a specific local community to serve. Also, because the client was not a public organisation which lacked a public business model and the information about local needs that would assist contractors in their pursuit of SV, the communication needed improvement. The main contractor felt that they could deliver the SV through their ‘business as usual’ approach without having to stretch their abilities or utilise their knowledge of construction or supply chain management. As a result, the SV outcomes delivered through this project were limited and were not tracked by the main contractor or presented as evidence to the client organisation. Accordingly, the low-level engagement of the main-contractors discouraged suppliers from delivering SV outcomes since they were not asked, which limited the volume of benefits the community gained.

In case four, the main contractor was a large company with a diverse range of experience in construction and SV delivery. In the project, they were asked to engage with the local community and deliver as much benefit as possible to the residents which they complied with and were involved in from the beginning of the project. The challenge for the main-contractors was the lack of data about the community's local needs and the available suppliers in the local market. This lack of data limited the amount of benefit being delivered by the project overall and did not enable the main contractor to pass SV requirements downstream the supply chain, because they could not depict outcomes suitable for both the suppliers and the local population. Nevertheless, the main contractor's engagement level and commitment was to plan an improved approach towards the local community through investing in obtaining more information about the local community in future phases of the project. The main contractor had a high level of experience in SV delivery to win the bid and enabled them to plan such an improvement from the initial phase of the project. In conclusion, despite the lack of significant success in case four, the high level of engagement of the main contractor offered the opportunity to plan an improved approach for the long-term and future phases of the project.

From the first two cases, the main contractors and suppliers collaborated and exchanged knowledge about the local context and construction characteristics to enhance the delivery of SV and succeed in doing so through collaborative relations. The main-contractors collaborated with their suppliers which would not have been possible through adversarial relations and thus they succeeded in involving these suppliers in the delivery process. Case three had an 'arm's length' relationship between the client, the main contractor and the suppliers, which resulted in limited collaboration about SV and limited engagement by the main contractor because the arm's length approach dictated a formal relationship and less collaboration between the suppliers. The main contractor did not collaborate with the suppliers or lead them because the relationship they had with the client did not allow for such.

7.3.9 Proposition Nine (Project Funding)

"A construction project source of funding as an all public, private, or a combination of public and private, has an impact on the strategic procurement, volumes of SV required and types of outcomes."

7.3.9.1 Cross-Case Analysis

In cases one and two, the funding sources were public money used by the local councils to procure their construction projects, which exposes these projects to public accountability and scrutiny. Different parties such as local councillors, community representatives and the public could obtain data about the expenditure decisions and question such decisions, which is a high level of scrutiny that encourages client organisations to ensure public money produces as many SV benefits as possible. In case one, the project was purely funded through the local authority's budget and was purely public from taxpayers' money which was one of the reasons the procurement approach of an EU compliant framework was chosen. In addition, the public money forced the client to consider delivering SV outcomes from the planning stage because the client knew the amount of scrutiny, they might face from a £100 million investment decision on a heritage project. There was an urge to increase the amount of SV being delivered by the client through the project to justify the decision to invest this amount of public money

which was passed as a message by the client to the main contractors and afterwards to the supply chains. In case two, the local authority funded the projects through selling land for private developers and using the money (totally public) which created a similar pressure to what the client in case one had to create - as much SV outcome as possible in the form of local purchasing and apprenticeships. Moreover, the organisation's leader acting as the SV champion pledged the delivery of SV outcomes as part of his election program which increased the level of scrutiny on the program to fulfil the pledge. In conclusion, the nature of the funding being purely public money influenced the procurement approach, the nature of the outcomes and the amount that was delivered.

In case three, the project was funded in partnership by the private client and a public loan from the local authority and a regional regeneration agency which came with conditions over the procurement and outcomes of the project. The local authority conditioned the funding of the project with the client on the procurement route being a traditional two-stage open book approach which included an SV element. In addition, the loan of the regional agency had a condition of delivering several apprenticeships through the project which was implemented by the client and delivered by the main contractor. The private part of the funding did not have an impact or influence on the delivered outcomes or the procurement route chosen by the client because it aimed at the maximisation of the profits for the client and did not have any pressure for community benefits as public funding would have had. The client (being private without the public loan) would have chosen a different procurement route which was a public agency requirement. Despite that, the influence of the public money could not have been the only driver for optimal results of SV delivery where the client organisation being the primary driver of SV was not engaged in a method similar to public clients.

In case four, the project was funded by the developer who was the winner for the partnership agreement with the local client, where the client owns the land and the developer funds the project. To clarify, the funding was private but because the client was a partner on the project the SV requirements were put in place by the client during the procurement and before the construction started. The funding at this point did not have a direct influence on the SV requirements or the procurement routes chosen by the client because of the project being a development. Nevertheless, because the developer was in partnership with the public organisation with the public entity owning the land, the funding influence on the project was bypassed, and other elements influenced the procurement. To clarify, the project being a housing development in a local area influenced the type of SV outcomes, which were local purchasing, apprentices and local employment, which was not the result of the funding influence. In cases one and two, both projects' sources of funding were purely public which resulted in the procurement exercise having to be OJEU compliant, through using regional construction frameworks. The mandatory procurement regulations also influenced their approach towards the types and amounts of SV outcomes where the client planned, delivered and tracked SV outcomes to justify any decisions they made about the project's expenditure. To a certain level in case one, the client had their lowest cost culture that impacted their choices over suitable SV outcomes. In case three, the project had mixed funding with a grant from a public agency, a loan local authority and the direct investment of the private developer which influenced their procurement decision becoming a traditional two-stage open book

procurement exercise. The public loans had the condition to deliver SV outcomes among its objectives which would not have been applied if the funding was purely private. Hence, infrastructure projects with mixed funding sources consider community benefits delivery, even if the developer is a private business.

7.3.10 Proposition Ten (Difficulties of SV Definition)

“The process of defining the SV outcomes to be delivered in the construction project is critical to the selection of the outcome types and the success of the project’s SV performance.”

7.3.10.1 Cross-Case Analysis

In cases one and two, there was enough time and effort made by both client organisations to define the outcomes they needed to produce for their projects. In case one, the client had more than two years before the procurement started to plan the project and think about the types of outcomes they wanted, they utilised their business skills and employment experience and understood their local context clearly which helped them choose the right type of outcomes that would be suitable for the project. In case two, the client organisation had enough time before procurement to plan SV outcomes because the programme was a pledge for the council leader where the client organisation utilised their business units to know the suitable outcomes which would improve the overall quality of life for the local community. The SV outcomes for both cases were of a socioeconomic nature because the client was a local authority serving local areas where community needs could have been fulfilled through outcomes such as apprenticeships, local purchasing, local employment, and training programs. Because the local authorities had to deal with unemployment, youth problems, and the local economy among the issues they were required to solve, they tended to target SV outcomes to help eliminate these issues. Thus, due to enough time available to plan and choose SV outcomes, both client organisations successfully constructed SV outcomes suitable for their projects and the service they delivered as public organisations.

In case three, the client organisation was a private developer with a different business model regarding ‘the time to market’ when compared to public clients, where the business nature of private developers is a ‘short time to market’ to maximise profits. Nevertheless, the public organisation funding the project had an impact on the procurement being a traditional two-stage open book route, which included the addition of several apprentices as the SV outcomes ask of the funding bodies. However, it was not clear whether the client had enough time to plan and investigate SV delivery or not during the procurement time where the bid questions included the SV element of the funding bodies only and the private client did not have a preference of types of SV outcomes. The client organisation did not select the types of SV outcomes due to their business model, which aims to maximise profit rather than deliver public services as their main business. The long-term nature of the client’s business influenced their understanding of SV which was why SV outcomes suitable for construction projects were considered irrelevant for the client.

In case four, the client had time to plan the procurement and understood the need for SV outcomes during procurement but did not have time to collect the data needed about the local suppliers to know amounts of the outcomes to be delivered through the project. There was not

enough time to thoroughly investigate the local context which was essential to the definition stage of SV where information about the local market capabilities would enable the client to make design decisions that would suit the local market and hence decide on the outcomes they expected from the project. Accordingly, because there was not enough time, the delivery of SV was thought to be limited, and both the main contractor and the client organisation admitted that given enough time they would have made better decisions and provided accurate results for the project. In conclusion, it was clear that SV requires enough time before going to market (procuring) and going to site for proper planning and to collect the data needed for such decisions.

In cases one and two, the client organisations had considerable amounts of time to investigate, plan and implement SV delivery through their projects. They did not rush in the delivery process, and they used the experience and knowledge they had about the local markets and the community to decide about the outcomes. The main-contractor's contributions to the definition stages were significant in both cases, as they used their experience in procuring from local markets, their influence on design and construction processes to improve SV outcomes suitable for their projects. In cases three and four, the clients did not have the needed information to define the outcomes they wanted to deliver due to the lack of time, resources and motivation to provide the time and effort for SV definition.

7.3.11 Proposition Eleven (Imbedding SV in the Core Objectives)

"The SV AZ developed as the outcome of the improvement process and maintained by the client organisation embed SV as a core deliverable in construction projects by providing a detailed delivery plan consisting of activities which are carried out across the project stages."

7.3.11.1 Cross-Case Analysis

In case one, numerous interviewees implied the need to have a framework which organises how the client organisation approaches the delivery of SV, where the framework would use hard gates to deliver activities and ensure that the activities were not bypassed unless they were complete. This gateway process will tease out the activities needed at certain times which aim to achieve the client's objectives which were mentioned in the transcript as:

"Have a gateway process for both capital and revenue spend, this came in a number of years ago, so it has come to an easy alignment of projects to tease out the one project coming out of one department which is going to offer a tangent to some other strategic policy."

"this makes so much sense to me, and they get across all the gateway processes so that people who have not got it really on the radar if people prevented, from, they will not be allowed to deliver projects for their organisations without getting all this stuff in then that, it is a new law. You make it a new law it is a law within a client organisation and to get it to become a new law the leaders of that needs to recognise the value of it and say we are doing this."

In cases two, three and four the same process was suggested based on the client organisation to have a sound process of deciding what needs to be done before starting the procurement and

during the pre-procurement stages, which can be used at the starting point of the project to help the client organisation set the targets and how to achieve them and then can be managed flexibly as the project progresses. It would provide a benchmark for the client to measure against and a starting point to negotiate with the main contractors and the suppliers about the delivery. These processes would ensure that SV is in the core of the project, making it a manageable task. The interviewees mentioned this in the transcripts, as shown below:

Case two “I think it would preferable to have an overarching framework that we use as at least a starting point on any construction projects that we are working with and then but not have that, because at some point when you have that you might say well that is how we do it, so if it was an apprentice per million pounds it like that is what it is so, on that school you would have 17 apprentices you know so I would like to have something may be established as that but as a framework so that you still would have the flexibility to have a negotiation may be to negotiate up to make it more ambitious depending on the trades.”

Case two “just because I think sometimes if you are working in a particular set of guidelines it becomes like setting stones this is what happens so if a company then say look we are really going to struggle meeting that apprenticeship number because of X Y and Z you know how it is in the contract you need to do it, and it is kind of you didn’t have that ability, and you can get different types of benefits”.

Case three “for developers and people like us to, you kind of go and away and you design something up, and then you have got processes such as development control and there are optional processes that we drive which are about public consultation but to be honest with you at the point you do that, you very much have a well-developed project and when it is on that sort of scale there is not a lot of change that you can make because fundamentally you designed the project”.

In conclusion, having a sound process for SV delivery with defined activities would improve the delivery plan because it transfers SV from being a soft issue to be a hard deliverable with specific activities which enables the client to achieve their aspirations.

7.3.12 Proposition Twelve (SV Identification)

“The improvement of how the client organisation understands the local suppliers’ market capabilities is necessary to plan and deliver SV outcomes with a socioeconomic nature in their local markets.”

7.3.12.1 Cross-Case Analysis

In case one, the client and the main contractor interviewees suggested that a model which could improve their awareness of what the local market has to offer, from the construction supply point of view, was needed to improve how they deliver SV outcomes. A system to improve knowledge about available suppliers would help the project team to overcome the problem of increasing engagement with local markets. Because they did not know what the trades in the local markets were, they were unable to predict the levels of local purchasing and local apprentices, especially with a one-off project. In case two, a client interviewee made the same

suggestion but for another reason, which was the need to advertise their work to their local suppliers first before seeking outside suppliers. The client organisation had a local suppliers' database which they started developing after the programme began and thus did not know what the local suppliers available for the programme were which they saw as an essential improvement. In case three, despite the client not depicting this improvement as a necessary subsystem, it was the main contractor interviewee who suggested this improvement based on the argument that the main contractor did not have enough data about what the local market had to offer. It was also added that there was not enough time to investigate the local market and to know what suppliers they needed to hire. It was also implied by the funding organisation which was a public organisation that the main contractor should increase their engagement with the local suppliers by surveying what the local market had to offer.

Finally, in case four, the inability to name local suppliers and the trades available for the main contractors to hire was the biggest challenge facing the client organisation, because neither the client nor the main contractor was able to further procure local packages despite their intentions because they were not aware of the local market.

7.3.13 HAS Models Cross Case Analysis

Several HAS models have been suggested by the interviewees across all cases, but for different reasons. Table 15 shows similar models across the four cases and analyses them from each case.

<i>Improvement of HAS models</i>	<i>Proposition Analysis from Case One</i>	<i>Proposition Analysis from Case Two</i>	<i>Proposition Analysis from Case Three</i>	<i>Proposition Analysis from Case Four</i>
A model to break down the construction and design elements and materials to increase local purchasing volumes.	It was suggested by a tier 2 supplier because on the project they analysed work packages and increased purchasing from local suppliers but recognised that doing this early would have yielded better projects.	It was performed already by the client and the main contractors and yielded successful results	It was recognised that the main contractor needed to analyse the construction elements to increase their local purchasing of the client had increased SV targets.	It was suggested as part of the engaging local supplier improvement model by the main contractor
Model to investigate local context and improve the knowledge of clients and main contractors	It was suggested by the procurement vehicle interviewee to improve how the client understands what is suitable for their projects and what they need to ask for from their supply chains	It was suggested by the procurement vehicle interviewee because time was wasted at the beginning of the project when the client could not name what was suitable for their local context	It was suggested by the funding body because it was clear that the private client had a different perspective from public bodies and needed to change how they deal with the construction bit of their work	It was suggested by the main contractors because the missing information about the local context hindered the delivery of SV outcomes.
Model to link the SV outcomes to other projects after the completion of their projects	It was suggested by the main contractors because the SV outcomes could have been extended if they were linked to other projects after the completion of their new project	It was suggested by the main contractors because they saw the benefits of having programmes and thought that connecting single projects to each other to form a programme to extend the impact of SV	It was not recognised by any interviewee	It was not recognised by any interviewee.

Table 15 HAS Models Cross Case Analysis

7.4 Theoretical Analysis

As discussed earlier, multiple case study research relies on analytical generalisation as the method to generalise the propositions of the cases conducted by the researcher, which is necessary for the process of mid-level theory (framework) development. An analytical generalisation is a method (approach) to validate multiple cases' propositions. The findings of the cross-case analysis, which were deduced from the patterns emerging from the intra-case analysis as well, were used in validating the findings of the cases. The analytical generalisations presented below were concluded from the findings of the research.

- 1. Analytical Generalisation A- The significance of the client organisation in driving the SV.** As per the various discussions and examination of this research from the intra and cross-case analysis it is apparent that the client organisations and their characteristics are instrumental in achieving SV outcomes with a socioeconomic nature. The level of leadership shown by the client organisation led to a degree of SV delivery success which varied according to the leadership rigour. The success of SV implementation is attributed to the SV demand created by the client organisation and the follow up process applied by the organisation. This discovery was adduced from the four cases with the level of client leadership being proportionate with SV success, such as cases one and two, which had high levels of success in SV and rigorous leadership, and cases three and four, which had lower levels of leadership and insufficient SV delivery. Successful clients were able to provide the information they needed and utilise their organisational capabilities to plan, implement and track SV progress. Client organisations overcame multiple SV implementation challenges through the way they led the process and managed different parties, including supply chains.
- 2. Analytical Generalisation B- The influence of construction project characteristics on SV success.** From the intra and cross case analyses, it was apparent that there are various factors that influence SV delivery and must be taken into consideration when aiming at its delivery. These factors are linked to construction projects on internal and external levels where some factors can be managed by the project team and others are outside of the project team control, but under the influence of policies and strategies. It was clear from the four cases that the level of influence each factor had over the project varied and influenced each other according to the project and the client nature without having any factor being dominant over the others. It is up to the client organisation and the main contractor to take these factors into consideration and manage them properly to deliver optimum SV results because some factors are better managed by the main contractors, whereas other factors are better managed by the client. Strategic procurement, design and construction characteristics, local context, funding sources, local context and supply chain responses are the factors discussed in the four cases to have influence on SV delivery and success. From cases one and two, the selected procurement route had a great impact on how SV was delivered, in case three the design and construction characteristics influenced how the client approached the market, and in case four, the local context influenced how the project was set up and delivered.
- 3. Analytical Generalisation C- The nature of SV outcomes of construction projects in the UK.** The nature of SV outcomes which were requested through the cross-case analysis were

influenced by the client business models. It was quite clear that the client's business influenced what these organisations depicted as SV which varied accordingly. In cases one, two and four, the clients were local authorities making SV the dominant socioeconomic value and short in duration, to suit the construction project's time frames. Socioeconomic SV outcomes was selected by the clients to suit their nature as service providers for their local communities and the scopes they cover for educational, social, health services and economic regeneration to have a thriving community. In case three, the client was a private developer who provided long term outcomes as SV based on their business being long term, which exceeds the duration of construction periods, meaning that they were able to offer permanent jobs in their commercial venture and businesses. Accordingly, the nature of the client business and services they provide shapes the nature of SV outcome choices.

7.5 Chapter Summary

This chapter has discussed various findings from the intra-case analysis which directly influence the SV delivery process and analysed them from a cross-case approach. These findings were typified, as per the SSM, as current situation findings and improvement findings. These findings have been examined extensively in this research to understand the relation of these findings with what the original propositions indicated. During the analysis, the researcher examined various interviewees' viewpoints across the four cases for any emerging patterns which could have been linked to the distinct characteristics of each of these individual cases. Upon the conclusion of these detailed analyses and discussions, the researcher developed analytical generalisations to relate the findings to the principal elements of the research, which were examined during the study. Finally, within this analysis, a tentative transition of propositions generated within the individual settings was exercised. This transition is regarded as feasible as the cases are very similar regarding geographical location and in terms of time. Due to this, it could be argued that the individual experiences from the different cases are likely to be rather homogenous and hence a broadening of the intra-case analysis propositions is possible. It could be shown that this was indeed the case and that the assumptions based on the intra-case analysis were valuable in the cross-case analysis.

Chapter 8 Discussion of Intra-Case and Cross-Case Findings

8.1 Chapter Introduction

The previous two chapters (six and seven) discussed the findings of the intra-case and the cross-case analysis and how the findings can be generalised across the four cases because they could be compared since, they had comparable settings. In this chapter, the intra-case and cross-case findings are presented and discussed regarding their relation to the knowledge (the principal authors and industry commentators) and how the findings resonated and built upon the themes within this literature all about the research aim and objectives. The discussion chapter is part of having an ‘academic conversation’ with those seen as peers in the research field. Therefore, as this chapter progresses, it will add value and contribute to the overall field of knowledge. The chapter is structured as follows:

1. Social value in construction project procurement
2. Construction Projects’ Key Stakeholders in SV context
3. Construction Projects’ External and Internal Factors Influencing SV
4. Chapter Summary

By the end of this chapter, how the research questions were answered and how this research positioned itself within the body of knowledge will become clear.

8.2 Social Value in Construction Project Procurement

Client organisations in cases one and two were aware of the contextual circumstances of their projects and soft procurement outcomes they needed, to create what they viewed as SV and understood that there are no ‘one size fits all’ solutions for projects. Cases one and two opted to have bespoke approaches to the procurement of their construction projects. Their approaches included multiple business units to support creating SV without relying on previous experiences or approaches, they were able to develop specific approaches to their projects where they considered the circumstances of the projects, their social strategies and their capabilities and experiences as client organisations. Cox (1999) and Cox and Thompson’s (1997) argument that procurement relations are fit for purpose when they fit the circumstances resonates with how client organisations in cases one and two approached their project and programme. In case three the client did not have a full understanding of circumstances that would influence an SV context which resulted in selecting an approach which was not fit to create soft construction outcomes. In case four there was an understanding that the project circumstances were complex and required more investigation, but the circumstances of the project did not offer the client enough time to intervene properly. Awuzie and McDermott (2016) and Cartigny and Lord (2017) argued that re-engineering public construction procurement would improve benefits created by public projects to fulfil social agendas. The four cases supported this claim and indicated that decisions about SV are made across different stages of the project from inception to operations to satisfy client organisations’ social objectives. In cases one and two, the stakeholders intervened with strategic procurement decisions during the business case building, design stage, procurement stage and the construction stage, and, to a lower influence, the operations stage. Hence, the client

organisations, the main contractors and the lower tier suppliers had a common objective they worked towards, using a common language about the SV they were delivering and understanding what they needed to do. Key stakeholders of cases one and two were satisfied with their performance, the soft outcomes they delivered and what they perceived to be SV where all parties had common perceptions about the value they created.

In case four, the client understood the impact that procurement decisions had on the soft outcomes they delivered and the value they claimed to have created but the lack of experience within the organisation, the lack of time and information about the local context hindered the integration of key stakeholders in what the client intended to deliver. In case three the client had a different business model which did not focus on changing their procurement approach but focused on the long-term outcomes, such as employment and local purchasing. Accordingly, the SV created was contested between the stakeholders where they did not work towards a common objective nor had a common language about what they aimed to create. Hence, the cases' intra-case and cross-case analyses implied that SV could be contextual social constructs perceived by stakeholders differently, but it is a result of soft construction procurement outcomes with a socioeconomic nature. The research added to what Bratt et al. (2013), Westall (2012), McLaren (2011) and Russell (2013) researched about the definition of SV, where they argued that the shortage in implementation methods contributed to the inability to name the types of soft outcomes to be delivered through the procurement and projects. High-level policies could not provide guidance regarding planning and embedding certain activities to deliver suitable soft outcomes. The lack of implementation methods and limited guidance in policy documents resulted in naming suitable outcomes being vague which depended on individuals' initiatives and copying previous approaches of previous projects, which may or may not have achieved successful results in a project. Through the four cases, it was understood that SV can be social constructs about the value being added through the delivery of the soft outcomes and that it is acceptable to have different perceptions about SV, but the four cases' stakeholders acknowledged that soft outcomes should be delivered to create such perceptions about values. In the four cases, the social requirements were designed to create soft natured outcomes, and not the SV itself, which resonated with what Erridge and McIlroy (2002) indicated about what adding non-commercial requirements to bid documents and evaluating bids accordingly. Defining SV was examined by Le Page (2014) and Westall (2012) as being a challenge in public procurement facing procurement teams because they argued that different solutions could help in solving a single community challenge. Hence, selecting outcomes suitable for specific projects can be confusing because of the myriad of options available. To clarify, the inability of public procurers to name SV outcomes of their projects comes from their experience in traditional procurement and focusing on time, cost and quality, which makes delivering additional soft natured outcomes challenging (Arvidson et al., 2013; Russell, 2013). In case one, the framework used had built in requirements about softer outcomes with a socioeconomic nature. In case two, the investment programme board added local purchasing, apprenticeships and employment as the soft outcomes to be delivered through construction procurement. In case three, apprenticeships outcomes were attached as mandatory requirements to the public loan to create what the public organisation considered as SV. In case four, local purchasing was the soft outcome which the stakeholders perceived as the objective

which would create SV for the local community. Accordingly, stakeholders perceived that outcomes are what leads to SV creation independent of what the value means for each stakeholder.

8.2.1 Timing of the Intervention

In the four cases, the timing of the intervention about SV varied; case two began relatively earlier than case one but both were considered to have early engagement with the procurement decisions and project investigation concerning design analysis, understanding the local needs and the local market capabilities. Both cases one and two engaged with SV decisions throughout their projects' different phases including business case, design and construction. Agreeing with what Cox (1999) explained that to achieve the strategic objectives of a client organisation they must engage continuously in a proactive manner throughout the different stages of the project. In case four, the client organisation was aware of the importance of early investigation, but because of the lack of resources, knowledge and the urge to start the construction, it was perceived as a late engagement with SV requirements. Whereas, in case three, the intervention was late due to the lack of understanding of the client organisation because the engagement was with the engineering and technical aspect with the project being a transportation infrastructure. Hence, in case three, the client had a reactive approach towards SV and did not prioritise soft outcomes through their projects, which is what Abramson and Harris III (2003) explained as having a reactive approach to the parties they deal with because they only engaged with SV requirements as a reaction to the funding bodies.

Valdes-Vasquez and Klotz (2013) argued that the inclusion of SV in construction projects is applied with decisions throughout all the phases of construction projects. They claimed that early intervention of clients, main contractors and sub-contractors have a significant influence on the design decisions and whether these design decisions influence soft outcomes or not. Accordingly, the research added to this argument that SV considerations early in the project have a significant influence over numerous aspects of the construction project and not just design considerations. In cases one and two, early intervention influenced design decisions about engaging with local suppliers but also influenced the selection of procurement routes where both selected regional and national construction frameworks were known for their ability to assist their clients in delivering soft outcomes. Also, in cases one and two, early decisions about engaging local suppliers through events carried out by public clients influenced clients' understanding of their local markets and what was suitable for their projects. In case three, interviewees indicated that SV dialogue did not start early enough on the project, which left the main contractor and the sub-contractors limited time to understand what the project could offer.

8.2.2 The Complex Nature of the Construction Market

SV in this research is socially constructed by key stakeholders, led by client organisations, where the value varies according to different perceptions of these stakeholders. Naming the social values being delivered through a project can be contested by the stakeholders because of the different perceptions each stakeholder has. However, what led to SV creation were the soft outcomes being delivered as part of the construction. These outcomes are included in the project plans, require resources' continuous management, monitoring, staff involvement and

must be suitable to the project environment (internal characteristics), social policies influencing the stakeholders and strategic procurement appropriateness. Accordingly, soft outcomes inclusion in the strategic procurement models increased the complexity level of the supply side and the level of importance varied between projects based on the client perceptions about how important soft outcomes and creating SV was. The literature discussed Kraljic's (1983) procurement model and how procuring organisation deal with the market conditions (level of supply complexity) and the delivered goods /service (Level of Importance) resonated with what this research found regarding procuring construction projects and using it as a platform for SV. Construction projects with SV being included at the core of its business case in this research were highly complex, especially when the SV context was considered because additional requirements were included in the procurement processes. In cases one and two, SV was perceived as highly important and was included in the requirements, which elevated the level of complexity when considering the supply side and dealing with the delivered construction facility. Cases three and four had limited inclusion to SV requirements in their projects due to diverse reasons, and they did not consider it as a core objective in their procurement. Accordingly, the research indicated that cases three and four could have improved their approach towards these projects and soft outcomes, if they had understood the level of complexity of the supply and importance of what was being created. Accordingly, the researcher argued that understanding the level of complexity of the supply market and level of importance of delivered goods or services would influence the approach towards procurement and outcomes of construction projects. This research agrees with Emmet and Crocker (2008) about construction projects being highly complex because of the diverse range of uncertain activities carried out during different stages. The incorporation of SV within the procurement decisions increases the level of complexity of construction projects.

8.2.3 Procurement Outcomes and the Creation of SV

In cases one, two and four, the outcomes delivered through the construction procurement had a socioeconomic nature where in case one the outcomes were selected by the client organisation and delivered by the supply chains: apprenticeships and local purchasing. These outcomes were what the stakeholders named as SV outcomes which fulfilled client requirements. In case two, the outcomes named by the key stakeholders were apprenticeships, local purchasing and local employment by the suppliers and these outcomes were named by the client, their business units and procurement units as the outcomes that would create SV for their local communities. In case three, the employment and local apprenticeships were perceived by the interviewees as the outcomes of the projects, but they indicated that the outcomes which led to SV were long-term employment of the local community beyond the construction period. The literature explained that SV creation was a response to reduced welfare and complex social challenges which required more than the capabilities of public organisations to deal with them (Barraket & Loosemore, 2018). Chevin (2014) indicated that SMEs were at the centre of delivering community wellbeing and that their ability to engage in commercial activities through their local areas would create value to their local communities which were found in cases one, two and four. In case three, the argument was that long-term local employment was what the client organisations perceived as outcomes creating SV. Petersen and Kadefors (2016) stated that

such outcomes were finding their way to bids and public procurement requirements, which was a move from the traditional requirements of time, cost and quality.

Soft natured outcomes were slowly being required by public client organisations, which confirmed what the four cases' cross-case analysis findings were, where soft outcomes were being requested as part of the procurement objectives by public clients more than private clients. The reason was that public clients had more inclinations towards community well-being than private clients because of their business units and their ability to shape the perspectives of supply chain members and how they buy into client's perceptions. The same argument was discussed in McCrudden's (2004) research which indicated that socioeconomic outcomes are suitable for public procurement because public client organisations can assign resources to achieve such outcomes because achieving socioeconomic outcomes are cross-functional tasks and require independent individuals to do them. In cases one and two, some individuals' roles were to manage SV creation which required resources specifically to pay for these individuals and cover such expenses. Also, resources were used to manage the apprenticeship programmes and meet the buyer events. In case four, project resources were assigned to recruit individuals responsible for SV from the main contractor's side to manage SV within the project from the main contractor's perspective and manage data collection engagement with the local community; and investigating the suitability of the soft outcomes to the construction project. Perceptions from the four cases were that socioeconomic outcomes were suitable for construction procurement because of the resources they required which public procurement would be able to provide.

8.2.4 *Measuring the Impact of Soft Outcomes*

Measuring SV was meant to assess the impact of the construction procurement outcomes on the local community they were designed to fulfil. In cases one and two, the main contractors collected information about apprenticeship hours and the local workforce by using postcodes to assess against the targets they set at the beginning of each project. The reports were used to assess the delivery of outcomes by the main contractor and suppliers against the targets set by the client in agreement with their supply chains. The assessment against the targets was used by the main contractors to improve their targets when the impact showed that there was room for improvement to achieve the client's targets. In cases one, two and four, they assessed the impact of soft outcomes on local communities by collecting information about the quantifiable social outcomes such as local purchasing, postcodes for local workforces and apprenticeship hours.

The stakeholders for each project used the collected data according to their needs where the clients used it to compare against project targets and ensure their main contractors were engaged throughout the project duration. Main contractors used the data to know when an intervention was needed, assess how these outcomes were aligned with their internal social agendas and increase the clients' level of satisfaction with their SV creation. The above agreed with what MacLaren (2011) indicated, that assessing the impact of soft outcomes is based on the perspectives of stakeholders, which is different from one stakeholder to another but can be used to assess the performance of each stakeholder and examine areas of improvement. Both cases added to MacLaren's (2011) research that perspectives are different about the impacts

but not the outcomes themselves, where data can be collected about the outcomes such as local purchasing, apprenticeship hours and local workforce independent of the impact they create. The impact in cases one and two can be contested and challenged because it will vary according to the stakeholder who is acceptable, because according to Rokeach and Ball-Rokeach (1989) measuring value is difficult because consensus about how important these values are for individuals or societies is variable.

The cases added to the Arvidson et al. (2010) argument about assessing the impact of public goods and services without evidence of success, that the assessing or measuring the impact of the outcomes can be not be compared to other projects, even if the project was in the same area, because of the contextual nature of each project. Therefore, the assessment of the procurement outcomes' impact is applied against the targets set by the client and the main contractors at the beginning of the project. It is acceptable to use the information collected about the outcomes differently according to the stakeholder position where clients can use it to assess the impact on the local community's wellbeing and the main contractors can use it to assess how they are achieving their social strategies which are different from the client's perspective. According to LePage (2014), the lack of comparable evidence hindered how the impact of outcomes was assessed when client organisations attempted to compare it with other project or other clients. However, if the evidence was collected only to examine whether targets were met or not this would benefit all stakeholders, as per cases one and two intra-case analysis findings, and if the assessment was given a level of subjectivity, the assessment could be accepted from the conflicting perspectives which were similar to what Russell (2013) argued.

For different reasons in cases three and four, stakeholders could not assess the impact of soft outcomes because there were no targets set at the beginning of both projects; thus, the stakeholders could not collect data which they could link back to the targets. In case three, the client did not develop any targets for soft outcomes because of different reasons discussed earlier, resulting in the inability to compare any impacts with any targets. In case four, when the case was conducted, there were no targets at the beginning of the project because the client did not have the information to help them develop the targets resulting in the inability of assessment. In conclusion, the four cases provided a view which indicated that from individuals' perspectives, measuring SV or the impact of soft outcomes is contested and meaningless. However, from the organisation's perspectives, measuring SV can help them track their targets and track the performance of supply chains regarding delivering soft outcomes for the wider community which was argued by Cartigny and Lord (2017).

8.3 Construction Projects' Key Stakeholders in the SV Context

In the four case studies, it was perceived that the key stakeholders who influenced SV decision making within a construction project were client organisations, main contractors and the subcontractors. MacLaren (2011) argued that decision making about SV in public procurement impacts different construction projects' stages making the lack of clarity about how and what to deliver these soft outcomes confusing for the involved stakeholders and unsatisfactory for the end users. There is a diverse range of stakeholders involved in construction projects, especially the ones which were publicly funded, who have different and maybe conflicting views about benefits to the local community and how these benefits could be realised. Through

the intra-case and cross-case analysis, the research added to MacLaren's (2011) argument through naming the stakeholders of each case and examining their roles and how they influenced the SV context in construction projects. The four cases indicated that the key stakeholders who influenced the delivery of soft outcomes which led to the creation of SV were:

1. Client organisations;
2. Main contractors;
3. Suppliers and sub-contractors (Tier two downstream the supply chain from the main contractors).

The below sections discuss the role of these stakeholders and how they influenced the decision-making processes of SV creation and the soft outcomes delivery.

8.3.1 Public and Private Client Procurement Business Models

This research agreed with literature which argued that drivers of publicly procured construction projects were different from those of the privately procured projects where the three cases studies examining publicly procurement construction projects indicated that SV was essential to the procuring organisations. The three clients focused on the soft outcomes created through the construction procurement as a direct result of the construction commercial activities. The above resonated with what Erridge (2007) and Thai (2001) indicated that public client worked towards regulatory objectives to ensure that public procurement regulations were not broken in addition to having socio-economic objectives which focused on the wellbeing of their local populations, which is central to their business models. Erridge and McIlroy (2002) argued that public clients could not neglect their responsibilities towards the wellbeing of the communities they serve in favour of achieving commercial benefits which is what the research indicated in all three cases for public clients. In addition to both authors discussed, the three cases indicated that public clients were pressured continuously to improve the well-being of their communities from funding bodies, local councillors, politicians and public scrutiny which can force them in being risk-averse to avoid such these pressures. In case one, some of the options were dismissed because they required extra funding which the client did agree with in fear of not being able to justify them. Holt and Cooper (2000) argued that scrutiny and accountability on public clients influence their decisions towards construction projects and pressures them into including social elements to their procurement exercises, which embedded SV in their default delivery models. Accordingly, the surrounding atmosphere of public clients sets the organisations to approach their construction projects with a tendency to include community benefits and understand how population needs can be fulfilled (Erridge, 2007; Thai, 2001).

Whereas, the private client did not have the creation of socioeconomic benefits or soft outcomes at the core of their construction procurement because their business model did not have the support of specific local population at its core. Also, they did not have the business units or information needed to make such decisions, and their market was more focused on long-term job creation but as a by-product of their commercial activities. The research findings indicate that the public client aims to maximise profit and looks at the shareholders' best interest which agrees with what Erridge and Hennigan (2012) concluded from their research.

The research findings added that the private client had the liberty to procure construction projects without complying to any public procurement regulations which had a positive impact on their ability to target specific groups from any communities they use. Market dynamics with the supply and demand influence private organisations' business models as part of pursuing profit maximisation (Emmett & Crocker, 2008).

Both public clients in cases one and two were better equipped to deliver innovative outcomes and lead change through their projects than the private client, because of the nature of their business and how their business models enable them to achieve their objectives. In case one, they opted to procure through a new regional framework and to have their project as the first procured through it. In the second case, the clients procured through two frameworks provided an innovative method of funding which they developed to suit their specific needs. The above argument agreed with what Macfarlane and Cook (2002) argue that limited public clients apply innovative approaches to their construction procurement to achieve their social objectives. Lamming (1999) linked the innovative approach an organisation adopts to their procurement approach due to the limited resources available to achieve complex objectives. In case four, the client did not select a new innovative approach towards their project directly, but their approach to improving the situation was different from their 'business as usual' model. They adopted a proactive approach towards improving the project outcomes and understood that the duration of the project would offer a way for them to change their approach. Public clients' regulatory requirements demand their procurement exercises to be transparent and provide equal opportunities for all suppliers bidding for the job from the EU member states and achieve fair competition between these suppliers. Also, socioeconomic requirements which public procurement directives of the EU commits clients to achieve as much added value as possible (Awuzie, Farag & McDermott, 2018; Lim & Ling, 2002). Because public organisations exist to maximise value for the wider populations they serve, they understand the problems these populations encounter and develop policies to assist them in developing solutions for it. Hence, social problems of populations fall within the public organisations' business models where part of the business of the public organisation is to develop solutions for these problems. Whereas, for private organisations, profit maximisation is their main driver despite attempting to create social and environmental benefits through their projects.

Individuals within case studies one, two and four, gained values and knowledge from community service experiences which influenced their views about how much construction projects can yield concerning soft outcomes. Contrastingly, individuals working with the private client of case three built their knowledge and experience from demand and supply dynamics which influenced their view on construction projects from an economic point of view and not from a benefits perspective (Briscoe et al., 2004). The internal structures and business units of the client influence their decisions and approaches towards their activities and overall performance (Boyd & Chinyio, 2006); hence, a public client with business units for services such as skills, employment, social services, education, health and care tend to understand SV from a community service point of view. Conversely, the private organisation with business units such as sales, procurement, development, commercials and finance, dealt with their projects from a profit point of view even if they had a sustainability business unit.

8.3.2 Client Organisations' Level of Experience and Procurement Portfolio

In cases one and two, the client organisations were experienced in procuring a diverse range of construction projects with larger portfolios and depicted that they could add different soft outcomes with a socioeconomic nature to their projects. Both clients had an extensive portfolio of construction projects with services such as health, education, social infrastructure and transportation. The large portfolios of projects provided these clients with awareness about how to name outcomes suitable for the characteristics of their projects and serve their local populations. Cases one and two provided an agreement with Cheng et al. (2008) who argued that the volumes of construction work of client organisations influence how they approach their objective delivery and offer them the needed bargaining power they have over their supply chain. They added that the experienced construction clients gain from their high volumes of work in influencing their decision making, as they become very informed in their project choices to name, plan and deliver their needs successfully. This included how informed both clients were about two things: firstly, about the options the procurement routes they selected and offered concerning options to deliver soft outcomes, and, secondly, how the clients' large portfolios and diverse range of projects gave them the knowledge and experience to select suitable routes. Also, both clients understood that the creation of value extends from the planning of the projects to the handing over where they need constant monitoring and management to deliver satisfactory results for themselves as clients and their local populations. The literature provided similar arguments about client organisations where procurement decisions, contractor selection and design suitability were decisions which depended on the client's level of experience and the higher the experience, the more suitable these decisions were to deliver the client's needs (Chinyio et al., 1998).

In contrast, less experienced clients deliver construction projects either sporadically or on a one-off basis and do not have known patterns to approach their projects because such patterns are developed through repetition of actions which is not possible in less experienced clients with smaller volumes of work. In case four, the client organisation did not have an extensive portfolio of construction projects and thus had less experience, knowledge or resources to plan, monitor and manage the delivery of construction projects with optimal results. It was the lack of resource in their skills and employment business units which hindered their ability to offer information about the local community early enough for their suppliers. Brensen and Haslam (1991) offered a similar argument where they indicated that smaller clients' lack of in-house expertise could challenge their ability to deliver or carry out activities which require high levels of experience, such as procurement, choosing suitable designs or selecting suppliers, which requires knowledge of the construction market. Less experienced clients, such as the client in case study four, did not have consistency with construction procurement which led to uninformed decisions because having to procure projects sporadically dismissed any opportunities to transfer knowledge and experience across projects (Masterman & Gameson, 1994). The client in case three added to this view that less experienced client organisations might be aware that their decision is uninformed, but the trio of time, cost and quality objectives can force them in dismissing non-commercial considerations of SV. In case three, the client understood that there was not enough information about the local context to inform them about

local outcomes, but they argued that the project schedule had to be maintained; hence, the client had to proceed with the procurement without such information.

Blismas et al. (2004) and Naoum and Mustapha (1994) implied that clients who managed portfolios of large, medium and/or small size construction projects, were experienced clients because of the work, bargaining power over main contractors, consistency of work over an extended period, high level of experience and lessons learnt, which transfer with the project team from one project to another. Nevertheless, the client in case three was an experienced large client with an extensive portfolio of construction procurement, but within case four was procuring a transportation infrastructure project for the first time where there was previous experience with such project before by the client. The client's lack of experience with a transportation project and information about the local context hindered the delivery of soft outcomes through the procurement. Accordingly, the experience of the client was irrelevant because the project was newly procured to them, which hindered the creation of SV.

8.3.3 Main Contractors' and Sub-Contractors' Role

In cases one and two, main contractors and the first tier of suppliers were engaged with clients' requirements and utilised their abilities and experience to deliver what the client planned for their projects concerning soft outcomes to create what the client organisations perceived as SV. Literature about supply chain engagement argued that engaged supply chains are critical for the delivery of outcomes because main contractors who can manage the supply chain-client and the supply chain members can deliver the client's aspiration (Vrijhoef & Koskela, 2000). In both cases, the main contractors used their construction experience and knowledge of the local markets to deliver procurement outcomes and fulfil the clients' requirements. For example, in case study one, design and construction knowledge were utilised to upskill suppliers to do the work, and in case two, main contractors' knowledge of the local supply market enabled them to select local suppliers without jeopardising the quality of work. In the literature, suppliers led by main contractors utilise their technical and functional knowledge about the construction industry to deliver a product which satisfies the requirements of construction clients, which is what the research indicated from all four cases, which resonated with what cases one and two argued (Cox & Townsend, 1998).

In case three, the supply chains were not fully engaged with the client because of the lack of communication between the client and the main contractor which indicated that the client did not provide the needed leadership to the supply chains. In this case, the client led what seemed to be an arm's length relationship with the main contractor and the supply chain which offered a rigid relationship that could not be efficiently utilised to deliver soft outcomes. The above resonated with what Awuzie and McDermott (2016) claimed that the relations between clients and suppliers to create SV would require a collaborative approach and not the traditional arm's length relationship, because it offers a common culture, collective decision making, trust between parties and efficient communication methods between these parties. In case four, the collaborative approach existed but was not enough to engage in the creation of SV because other factors influenced the outcomes delivery. Awuzie and McDermott's (2016) argument about the nature of relations between the clients and the supply chains was transferred between main contractors and the sub-contractors which was implied from the four cases, where in case

one and two collaborative approaches between the clients and the main contractors were transferred between the main contractors and the sub-contractors. In contrast, the arm's length relationship between the client in case three was transferred to be between the main contractor and the sub-contractors.

In cases one and two, the collaboration between the main-contractors and sub-contractors were supported by procurement and contractual decisions to create the atmosphere suitable for the creation of SV and the delivery of soft outcomes. The above resonated with what Loosemore (2015) argued about how collaborative activities carried out through the supply chain members through different stages of the project were necessary for fulfilling social objectives. The way supply chains respond to the client's demands is based on several factors such as the contractual relations, the funding sources and the project complexity (Morledge, Knight & Grada, 2009) where the adversarial relations are suitable for certain types of projects and deliverables and on the other hand collaborative relations are suitable for other types.

The introduction of collaborative relations between the clients, the main contractors and the sub-contractors changed these organisations reaction to the demands made by the client because all parties collaborated to achieve the client's objectives. Collaborative relations promoted knowledge sharing between buyers and suppliers, and this being transferred between buyers and suppliers on a long-term basis means that lessons learned from different projects are transferred to new projects (Brensen, 2009). In cases one, two and four the collaboration offered main contractors and sub-contractors with knowledge sharing, a common language, shared objectives, a sense of belonging and the ability to change their project decisions to suit their objectives like what Erridge and Greer (2002) argued the development of behavioural norms which influenced supply chains collective actions. Also, individuals sharing objectives were encouraged to exchange information, build trust between the main-contractors and their suppliers and provided common perceptions about what was perceived as SV.

In cases one, two and four, the interviewees understood what soft outcomes meant to the clients, even if it was not delivered in case four, and used similar terms to describe how they understood it. It was implied in case study two that there was trust between the supply chain members led by the main contractors and their sub-contractors because of how collaboration enhanced communication between the supply chain members and the main contractors. The knowledge of tier suppliers about the available pipeline of work influenced how they collaborated and trusted the main contractors. In case one, there were common objectives between individuals from different supply chain organisations about how they can create SV and deliver soft outcomes. In case four, collaboration did not offer satisfaction about SV, but it helped suppliers in understanding the situations and encouraged them to investigate it. The client's bureaucracy challenged their ability to include SV requirements in their procurement requirements because there was not enough time available to investigate it thoroughly. The collaboration and interactions between supply chain members were discussed by Erridge and Greer (2002) in the literature where they argued that interactions between individuals from the different organisations about common objectives would enhance trust and provide a level of consensus between their perceptions. In case study three, there was an arm's length relationship between the main contractor and the subcontractor causing the relationship to be less collaborative

without common objective between individuals. It was indicated that the individuals from the sub-contractors did not have a clear understanding of what the main contractors aimed at achieving and what SV meant for them and the client organisation. Erridge (2007) argued that misunderstanding between organisations about the shared social objectives have a negative impact on construction projects outcomes where norms and expectations in a specific type of organisations such as public clients or private contractors can hinder the communication between them. Similarly, in case three, because the client was a private organisation and the main contractor was used to dealing with public clients, there was a level of confusion about what the social objective meant for the client.

This research added to the literature (Barraket & Loosemore, 2018) about SV creation through cross-sectoral collaboration that integrating public procurement models which have regulatory, social and transparent requirements and can be used in pursuing new innovative procurement approaches with private pragmatic procurement models with the ability to explore options to fulfil clients' requirements and maintain commercial competitiveness. In cases one and two, it was clear that the cross-sectoral collaboration between public clients and private contractors had a positive impact on SV creation and the delivery of soft outcomes. In case one, social objectives were included in the public client's procurement model which enabled them to make strategic decisions about how to procure construction projects for the creation of SV. On the other hand, the private main contractor business model enabled them to investigate the local supply markets, understand the engagement with the client's requirements and have business-minded individuals to interpret such requirements into deliverables. The main contractor organisation used its knowledge with construction pragmatically to break down the heritage elements of the construction and upskill local suppliers to deliver these elements which saved cost for the main contractors and enhanced local supplier's engagement. In case two, the main contractors aimed to satisfy the client's soft outcomes requirement by encouraging them to establish a network of local suppliers to boost local purchasing and reduce cost at the same time, based on the public client's approach to aggregate their demand of projects. The main contractors used their construction experience to change construction suppliers to suit options in the local market. In case four, despite the outcomes being less than satisfactory for the client organisation, the continuous collaboration between the client and main contractors enhanced how they were investigating the situation where the main contractor used its resources to change how they approached client SV requirements.

8.4 Construction Project's Internal and External Influence on SV

From chapter three, construction projects were depicted as a system with factors influencing the internal and external environment regarding the soft outcomes and the creation of SV. These factors were discussed in detail in chapter three, and their influence investigated as part of the main study to understand the problematic situation of SV. Intra and cross-case analysis findings of the internal and external factors and how they are linked to are discussed below.

8.4.1 Project Procurement Route

The procurement route which was selected by the client organisations in the four case studies had an impact on the relationship between the clients and the supply chains and the culture it instilled. In cases one, two, three and four the procurement routes were selected to achieve what

the clients aimed at achieving, for example, in case one, the client needed the flexibility to add social requirements to their bids and build a collaborative relationship with the supply chains. Thus, when they selected to procure through a regional framework this offered them the route to what they needed. In case two, the client had a programme of projects and needed to use a procurement route that would allow the soft outcomes such as apprenticeships and employing local suppliers to be transferred between projects which were why they selected a regional and a national construction framework with multiple main contractors and supply chains. Both frameworks offered them the option of hiring multiple main contractors and aggregating the demand they created. In case three, the private client used an arm's length procurement route with a traditional approach, this allowed them to add apprenticeships requirements to the contract and fulfil the mandatory grant requirements. In case four, the client procurement route allowed them to have a longitudinal approach to their construction and manage the long duration of the project. The procurement route enabled the client to add SV requirements in the second and third phases of construction after the client organisation would provide more information about the local context. The cross-case analysis findings agreed with what Cox and Townsend (1998) claimed that approaching procurement choices strategically means that procuring organisations choose the route which will eventually achieve their objectives and fulfil their needs and satisfy their users taking into consideration the diverse range of circumstances surrounding the project. The research added to this argument that despite SV being an ill-defined problematic situation, it could be taken into consideration when selecting the procurement because the procurement route will support the choices made by the client to create SV. If the projects' complex circumstances were not considered when the procurement route was being selected, the opportunity of achieving soft outcomes from the project could be significantly reduced. Like what Booth (2010) claimed, that in the procurement route selection it was important that the clients possessed information to select the soft outcomes they aim to achieve and translate their vision into deliverables within the project. Also, through a suitable procurement route, main contractors can clearly understand the requirements of the client organisation and work towards achieving them.

Furthermore, organisations adapt their procurement route decisions to deal with increased levels of project complexity and achieve their objectives where traditional or business as usual procurement routes might fail to deal with complex projects making the selection of a suitable procurement route essential to overcome such complexities (Lamming, 1999). Hence, in case one, because the project was English heritage, the finalisation of the design and the budget needed to be after the main contractors were awarded the contract which is what the two-stage open book offered by the framework provided. In case three, the complexity was triggered by the demands of soft outcomes by the client organisation wanting to transfer the outcomes between projects which is what the frameworks offered them. Erridge and McIlroy (2002) argued that public clients could not procure using a pure supply and demand model, without considering the non-commercial objective, because they must never neglect societal needs in favour of commercial benefits. Thus, clients considering non-commercial goals during procurement increases the complexity of their projects and requires proper investigations to choose a suitable procurement approach. Taking the local context and data into consideration in cases one, two and four, added more complexity to the projects and required the clients to

have more information about it and further investigate the local market to select the suitable procurement route.

Clients in cases one, two and four chose to procure through construction frameworks which became a popular procurement option for public projects for several reasons according to their business needs because framework agreements offered a diverse range of options which can be utilised by the clients. Framework agreements had partnering and collaboration as their central ethos where clients have a close relationship with the main contractor on a long-term basis. The above agreed with what the literature claimed about frameworks being attractive for public clients because they wanted a collaborative approach with the contractors, a shorter time to market, bespoke project requirements and had no in-house staff members to deal with the project (Terence & Keith, 2014). Accordingly, in cases, one, two and four the collaboration between clients and the supply chains was made possible by the construction frameworks because it supports trust and sound methods for information exchanges across the supply chains. In case three, the procurement route selected was not chosen with construction procurement soft outcomes taken into consideration, but it offered the client the option to satisfy the public grant requirements. Selecting the procurement route had a significant influence on how soft outcomes are pursued and managed throughout construction projects because it supports the type of relationship between the clients and the supply chains and takes into consideration the complexity of the SV requirements and soft outcomes.

8.4.1.1 Project Type

The project type was based on being a single one-off project or a project procured as part of a construction procurement programme. The benefits of procuring programmes of work were reviewed in case study two because the projects were examined as part of a construction programme. In case study two, the project provided a pipeline of work and a longer duration of work for the main contractors and the suppliers which made clients requirements for more soft outcomes viable. Case two supported Murray's (2009) argument about the main challenges facing public procurement being the distorted volumes of work and the lack of consistency regarding construction procurement requirements which clients attempted reduce through aggregating demand (Murray, 2009). In construction programmes, clients would have long-term relationships with their contractors for more than one project to reduce the fragmentation of the demand side which was indicated from case study two. Despite the satisfying results of case study one, the apprenticeships and local purchasing engagement could not be extended beyond the construction duration which reduced the impact of such outcomes and the client's perceptions about the value it created.

Through the work done by Halldorsson et al. (2007) it was indicated that to achieve Supply Chain Management (SCM) benefits, long-term relations between organisations are necessary which is the reason aggregation of demand was beneficial. Briscoe et al. (2004) stated that the possibility of repeatedly working with the same client encouraged contractors to rectify any defects found in their products without relying on defect rectifications contract terms where suppliers appointed repetitively added value to their clients. They added that contractors, and their sub-contractor, were self-motivated in satisfying their clients when they knew that there would be future work to be won from the same client where suppliers were appointed based on

direct negotiations with clients. Literature arguments about construction programmes benefits were supported in case study two, where the main contractors' experience was enhanced because they worked with the client's employment and skills business units by the long duration of the programme. Challenges the business units named in one project were investigated and solved in later projects. Also, more understanding of local supply market capabilities was established across multiple projects. The leader of the business unit from the client organisation worked with main contractors on multiple projects which increased trust and improved the leader understanding of how these main contractors functioned. In case four, the longer duration of the project and great construction outcomes encouraged the client and the main contractor to deal with it as a programme where they planned to enhance their soft outcomes in new construction phases of the project and build the collaborative relationship between the client and the supply chain.

Choi and Wu (2009) indicated that a collaborative approach and long-term relationships between stakeholder organisations result in developing common goals between them where conflicts are solved through dialogue and negotiation. Also, administrative cost reduction, which is achieved through reducing the numbers of bidders, saved money through reducing the numbers of staff members performing the same activity in geographically different locations where managing the same staff would require a lower number of personnel from one company than having multiple companies to manage (Baldwin, Camm & Moore, 2001; Mallinder, 2005). Murray (2009) and Ross (2011) argued that public organisations transformed into being service facilitators rather than being direct service providers, the numbers of staff members had decreased dramatically, therefore, bundling contracts offered the same quality of services without having the cumbersome task of providing them directly. The benefits of aggregating demand concerning improved supply chain management were achieved after the contract was awarded where clients and the suppliers have time to build trust and share the benefits of their long-term commitment.

On the other hand, Cox and Townsend (1998) argued that not all projects could be bundled because different elements of such projects dictated a different approach that would be more suitable. To clarify, adopting aggregation of demand depended on elements such as project location, design elements and the repetitive nature of the construction components which can hinder or support the benefits of aggregating demand. Additionally, to achieve optimal results of construction programs, extensive planning is required by the client organisations to ensure that the objectives of such programs are achieved (Cox & Thompson, 1997). Accordingly, from cases one, two and four, it was clear that aggregation of demand does not guarantee the delivery of soft outcomes and the creation of SV which would satisfy the clients' requirements. In case two, the client's proactive approach, the projects design and construction characteristics and the procurement route had an impact on the SV context of the project. In case one, the client and main contractor reported satisfying SV results and soft outcomes delivery despite it being a one-off project where the other factors had a positive impact on the results. In case four, the project duration and construction output offered characteristics similar to what a programme had to offer but did not report satisfying result because of the other factors affecting SV context. Accordingly, project type is an enabler to SV creation, and soft outcomes delivery of its advantages were utilised to the best interests of the projects.

8.4.2 Local Context

The level of knowledge about the local context in all case studies influenced how the soft outcomes were delivered and how the supply chains utilised the local market capabilities. For local authorities in cases one, two and four, they aimed at achieving socio-economic benefits for the local communities they served where local jobs, local apprenticeships, local purchasing were mentioned in the three case studies as ways of creating value for the client organisations. The cases' perceptions of local benefits resonated with what the FSB (2012) argued about procurement responsibly to deliver soft outcomes for local communities, such as creating and sustaining jobs, tackling social issues such as unemployment and deprivation, boosting the local economy by improving local purchasing, creating new businesses and up-skilling labour through apprenticeship programmes. In case one, the client and the main contractors understood the magnitude of their project and how it related to the local community where the project location was not populous, therefore, they defined a broader area using postcodes which would benefit from the project. The benefits they created targeted these local areas and their communities regarding apprentices, local purchasing and local employment.

In case two, the client had information about what the local communities suffered from concerning youth unemployment, anti-social behaviour and local market opportunities and they designed their procurement approach to deliver soft outcomes to deal with such challenges. In addition, the client's skills and employment business unit began collecting information about the local suppliers to understand how to improve the engagement of the local suppliers. Furthermore, the main contractor's understanding of the local markets enabled them to change aspects of their construction to suit the local supply market. In case four, the client understood the social challenges which the local community was dealing with but did not have enough information about the local market capabilities which was why the intra-case analysis indicated that the project fell short from delivering soft outcomes. In case three, the client was a private client with no inclination to serve any local communities and did not have information about the market capabilities. Also, the project was not directly attached to a community because it was in a remote area which implied that there was no pressure from any local community to directly deliver outcomes for them where the client's short-term benefits of construction were perceived to be, for example, traffic improvement for commuters. Hence, literature about the local context suggested that to achieve local socioeconomic outcomes, clients and main contractors must understand local context of their communities to help formulate decisions about the SV outcomes and how can they be achieved (MacFarlane & Cook, 2002) which is what the cases confirmed. Furthermore, Esteves, Coyne and Moreno (2013) indicated that the understanding of the local context for central governments are similar to local authorities regarding the local market capabilities and social challenges where both are utilised to achieve socio-economic benefits for local communities. The cross-case analysis added to the local context literature that there are two streams of information which compounds local contexts from an SV perspective:

1. Local Supply: what the local market has to offer to the construction with information which cover the local suppliers available to work on construction projects, available local workforce and their skill levels and whether they could be employed on local projects and the colleges which can provide local apprenticeships;

2. Local Demand: what the issues are which challenge the local community and could be dealt with through construction projects, such as levels of unemployment and deprivation, impoverished populations, numbers of offenders' rehabilitation required and local economic state.

Warner (2011) argued that understanding the local context reduces protectionism where increasing local purchasing, to support local communities, can result in the deskilling of the project and neglecting innovative solutions (in design and construction) in favour of traditional ones to improve local economies. Improving the perspective of the local context would enable an informed client to support local suppliers without reducing their ability to compete for work inside or outside the local communities and risk their very existence in the long run. In case three, the client working with the local authority where the project was located were aware of the negative impact they would have created if they favoured local contractors with less technical capabilities over non-local contractors with more technical capabilities. The negative impact would have been less encouragement for the local suppliers to compete for work outside of their local areas which would have a detrimental long-term impact on their ability to compete. The client and local authorities recognised that competing with innovative contractors would improve their ability to win work and improve how they survive.

To fully understand the local context, client organisations should have cross-departmental collaboration between business units which represent economic development, corporate procurement and skills and employment (FSB, 2012). In cases one and two, the clients understood that there was no 'one size fits all' approach to deliver services to the public because solutions varied from one region to another where these variations depended on the local circumstances, which is why it was important to understand local context clearly. Because more power is set to be devolved to local authorities, it is of the best interest of service deliverers to consider local contexts when they aim at creating SV and delivering socioeconomic outcomes. The Devolution of Power report (2012) implied that the devolution of power from central government to the local authorities is encouraging local authorities to improve how they understand their local context and use this detailed understanding to improve the impact of their projects on the local communities. The report added that achieving local growth is challenged by the lack of knowledge about the local context by clients, main contractors and smaller suppliers. The UK central government devolved its power to local councils and wards to guarantee more involvement of these councils, who know the local context because of their involvement, in shaping their benefits through the services and products these councils provide. The above argument was perceived in case four, where the client did not have enough information about the supply side of their local context which hindered how the project delivered socioeconomic outcomes. The client recognised how limited the information they had about local suppliers and their capabilities and were planning to improve their knowledge about local markets.

In conclusion, local agendas and increasing the services and benefits for the local community is the objective and primary driver of local authorities. To achieve a local social agenda, knowing suppliers available in the local markets, has become necessary for the authorities similar to that on national levels where central governments are seeking information about the

industries and suppliers available nationally which helps the country to compete internationally. Because of the varying levels of economic growth within the regional market (the South East with 19.5% of Growth Value Added compared with the North West Growth Value Added at 14% (Harari, 2016) local authorities recognised the importance of knowing their strengths and weaknesses regarding local suppliers. Hence, knowledge about local market capabilities is becoming necessary for SV delivery.

8.4.3 Project Design and Construction Characteristics

Design and construction elements influence the procurement and overall performance of construction projects where designing supports different requirements of the project's stakeholders (Howes & Robinson, 2005). In the four cases, the design and construction utilisation to create SV varied between projects according to how the clients and main contractors understood the impact of such elements to their soft outcomes' delivery. In case one, the main contractors began investigating how to increase the local supplier engagement with the project without jeopardising the quality of the project. In case study two, the client and main contractors' engagement with the design stage were detailed where they changed some of the construction decisions to suit the local markets. In case three, because the project was highly technical, the design and construction characteristics were not available nationwide, but because of less engagement from the client, the possibility of changing design or construction elements were not further investigated by either the client or the main contractor. In case study four, the project was a generic construction housing project with design construction elements being available in the region which resulted in the main-contractor being able to recruit local suppliers, but that was hindered by the lack of information about local market capabilities.

The four cases agreed with what Formoso et al. (1998) and Valdes-Vasquez and Koltz (2013) argued that the impact of the design stage on the project's SV context is significant despite the shorter durations and lower cost of design activities compared to construction activities. Benoit and Mazijn (2009) added that including social sustainability to construction design phases focuses on the finished project impact on end-users such as elderly or disabled groups but did not mention the socioeconomic outcomes consideration of the design stage which was indicated from the four cases. In cases one and two, the design stage had more considerations about SV creation which added to what the literature discussed regarding social sustainability design considerations.

Tzortzopoulos and Formoso's (1999) work implied that the client brief included all stakeholders' expectations which the designer works to achieve, where the brief articulates issues such as technical, financial, environmental and economic objectives of the client organisation. How the design objectives are presented to the designers provides them with a clear understanding of their importance to the client organisation. Accordingly, how the designers interpret the client's brief influences the achievement of the client's objectives which could be economic, social, or environmental. In three cases, the softer objectives were considered because the importance of these objectives were clear to the clients and the main contractors. Optimal design management, therefore, takes into consideration all stages of a project, from inception to operations, covering multiple stages with different requirements at

each stage. Hence, design management creates value through processing data and materials at each stage where more information about the project in earlier stages creates a better outcome of the project. For example, a decision about materials and construction methods influences the final product of construction significantly because of the high percentage both elements have over the construction budget. Miller and Ip (2013) argued that when construction material was procured from local markets, it can create an economic impact on the local market with the level of impact depending on the value of the material. In case study two, purchasing materials and services from local markets was included by the designers in their design management because the clients expressed how important this was for them which encouraged the main-contractors and their design suppliers to prioritise it in their design phase.

Furthermore, the literature argued that the traditional design and construction activities were separate in most construction projects where design includes consultants, engineering companies and architects, who develop construction drawings before contractors are involved which limited the contribution contractors can make to the design through their constructability experience which is crucial to the design phase (Sodal et al., 2014). Thus, in case studies one and two, the contractors were involved in the design decisions early in the projects, and their soft outcomes delivery benefitted from their construction experience and enhanced SV creation. In both cases, the silos concept between different stakeholders was reduced where different participants contributed to the project's design stage concerning SV creation. The experience of contractors in procuring materials and suppliers from local markets influenced the design decisions about such elements where contractors utilise their experience to boost local market procurement without jeopardising the quality of the build.

It is important to note that the increased influence of main contractors over the design decisions can harm the overall quality of the build, if not adequately managed by the client, because contractors influence the choices of materials that would reduce cost but might reduce the local benefits or increase the carbon footprint (Wong et al., 2004). Idoro and Bose Iro-Idoro (2016) added that new methods of construction which were more straightforward in the application for contractors, such as off-site manufacturing, which can diminish the benefits for the local communities if these communities do not have off-site manufacturing or can reduce the opportunities of creating jobs when compared to traditional construction methods. In cases one and two, contractors' involvement in the design stages aimed at creating value and enhancing project outcomes where they balanced benefits to the local suppliers with the quality of work. Interviewees indicated it in case three, in that the design and construction elements could have benefited from being analysed regarding improving local supplier engagement, but the client, the main contractor and the designers did not further analyse these elements which limited the benefits for the local suppliers. In conclusion, the design and construction elements influenced SV creation and soft outcomes delivery if clients and main contractors intended on utilising them.

8.4.4 Project Funding

Sources of funding for construction projects have an impact on several factors that impact a construction project, where the public, private or a mix between both funding sources have implications on overall construction project performance (Nguyen, Ogulana & Lan, 2004). In

case three, the project was funded by private investment and public loan which had procurement requirements attached to it and mandatory socioeconomic benefits to be fulfilled by the client and the main contractor. Despite private sources of funding, the client had to abide by public procurement rules and requirements because of the public funding where this reduced the liberty of clients in selecting a procurement route suitable for soft outcomes they were aiming to deliver. In case study two, the client organisation funded their projects depending on local sources, which enabled them to have bespoke approaches to the procurement and select soft outcomes without having obstacles to their objectives from central government or other funding bodies. Caldwell et al. (2005) argued that factors such as the procurement routes and local community engagement level are affected by the funding source of construction projects. They added that publicly funded projects have tax money as its source, which pressure client organisations to make specific decisions about how the money is spent, how these decisions are justified to the public and how the project risks are mitigated.

Population needs are the primary driver for publicly funded projects where the public agencies supervising these projects are closely monitored and scrutinised in terms of the decisions made by the client organisations (Tabish & Jha, 2011). In case study two, the decisions made about utilising the public funding were triggered by the local population needs regarding their need for more schools, as well as SV. In case one, the client organisation was under pressure because funding a heritage project during the economic crisis was frowned upon by the public which created pressure from public agencies and local councillors to deliver socio-economic benefits. Also, because of the project being publicly funded, the client rejected several suggestions from the main contractors to create socioeconomic benefits because the client organisation's staff could justify how the funding was utilised. This point agreed with what Briscoe et al. (2004) argued where scrutiny over publicly funded projects could negatively influence tender reviews where lowest cost culture and competitive tendering is the norm for clients resulting in the inability to justify higher costs SV decisions.

8.5 Chapter Summary

This chapter discussed the findings of intra-case and cross-case analysis and linked them back to the literature, and the agreements between these findings and the literature were also discussed. The chapter discussed how SV was perceived in the complex construction procurement context, types of outcomes which were thought of as a direct cause for SV creation, what was perceived as measuring SV, and what the cases added to literature about measuring SV. The chapter then discussed the role and perceptions of the key stakeholders about SV, and how clients, main contractors and sub-contractors contribute to the SV context. Finally, the chapter discussed the construction project factors which influence how SV is perceived and approached by the clients, where the procurement route, project type, local.

Chapter 9 Conclusion, Recommendations, Contribution to knowledge, Implications

9.1 Chapter Introduction

This research was based on four main areas: the development of the research problem area and examining the problematic situation of construction procurement context in Chapters 2 and 3. The second part forms the decisions and justifications about the philosophical elements of the research, such as SSM, social constructionism, case study strategy and data collection methods in Chapter 4. Chapter 5 showed the pilot usage of SSM, examined the suitability of data collection methods and developed the SVAZ process through integrating SSM with GDCPP to improve how actors think about SV in construction projects. Chapter 6 and 7 were the main study, which was four case studies of construction projects used to understand how key stakeholders perceive and create value in an intra-case and cross-case analysis. Chapter 8 discussed the findings of Chapters 6 and 7 and linked them back to the literature.

In this chapter, the aim, objectives, propositions and the implications of generated propositions in the SV construction project context are discussed. This chapter includes sections covering recommendations for practice, methodology and the relevant bodies of literature. Accordingly, this chapter is structured as follows:

1. Conclusion
2. Recommendations
3. Contribution to Knowledge
4. Implications

9.2 Conclusion

This research was based on the investigation of construction project impacts on surrounding communities and how these projects were utilised as a process for the benefit of the local populations in the UK. Previous research exposed how social policy documents could not provide guidance and techniques in planning and implementing the delivery of SV in construction projects, because policy documents had high-level strategic objectives but lacked operational level guidance, which created confusion among construction procurement practitioners. In addition, SV was less investigated than environmental or economic research, as the third pillar of sustainability, which constituted a gap in the literature regarding SV, which needed to be filled. The gaps in policy documents, implementation methods and literature in SV resulted in sophisticated analysis of construction projects and thus created vagueness surrounding the understanding of decision making around creating value and delivery outcomes. Accordingly, this research sought to tackle the gap in SV literature and implementation methods by developing a method which improves how stakeholders consider SV in their construction projects, using four case studies of construction projects. Addressing the gap in literature led to an improved understanding of how outcomes are currently being delivered and developed a process to improve how stakeholders think about SV. To achieve the aim and objectives of this research, the study was divided into four main sections:

- Understanding the root cause of the research problem area
- Knowing a suitable method to approach the problem area
- Understanding key stakeholders of construction projects and examining their views about SV creation
- Developing a process to improve how SV is perceived by key stakeholders using system thinking (SSM) and GDCPP

This structure helped in the achievement of the research aim and objectives. Table 16 shows the area where each objective has been achieved.

<i>Research Objectives</i>	<i>Research Sections</i>
To understand SV problematic situation and how construction projects procurement is used as a platform for SV creation.	Understanding the root cause of the research problem area
To assess the suitability of a systems' approach in investigating construction procurement for SV problematic situation.	Knowing a suitable method to approach the problem area
To understand the different perceptions of key stakeholders about SV in their construction projects' procurement.	Understanding key stakeholders of construction projects and examining their views about SV creation
To assist stakeholders in thinking about suitable outcomes of their construction projects to create value for their communities and reducing the gap of knowledge between policies and operations.	Developing a process to improve how SV is perceived using system thinking (SSM) and GDCPP

Table 16 Research Objectives against Research Sections

9.3 Reflecting on the Research Objectives

As presented above, the researcher reviewed the achievement of each objective to ensure that the aim of the research was achieved. The following sections review how this research achieved each of the research objectives.

9.3.1 Understand the SV problematic situation and how construction projects procurement is used as a platform for SV creation

After reviewing the diverse range of terminology used to name the social element of procurement, this research was set to demonstrate an understanding of how the SV situation was problematic and how publicly procured projects embarked on creating it. To achieve this, the researcher reviewed the literature about the development of social elements in business and how it has evolved over the last 20 years, to be the main component of public and private businesses. Also, the researcher examined the existing literature about the usage of construction procurement in delivering different policy objectives in different contexts, with a focus on how these policies were used to create social benefits for local communities. The researcher reviewed different scholars' opinions about using the public purchasing power of goods and services in producing socioeconomic benefits and the suitability of this approach in local contexts. The research then moved to review the UK central and local government social policies, and the development of terminologies until the emergence of SV as a popular term in

public procurement. Moreover, the researcher reviewed, using construction procurement as a platform to deliver soft outcomes and create SV, how the key stakeholders of construction projects perceived this.

This review indicated that the neoclassical economic theory, being the dominant economic model in its classical form, could not cope with the constantly changing demands of the public and that a change to the business models to cope with the new demands for social and environmental outcomes had been needed. This resulted in the emergence of new models, such as CSR, which included social and environmental elements for any business, but it was explained that such models could not deal with complex challenges and triggered the need to change the models to fulfil public needs. The review implied that using public expenditure in delivering social agendas have been used in Europe and the UK for a long time to deliver benefits, such as social inclusion and reducing poverty and that the pressure on central and local governments to include social have risen because of the increase in social challenges in different communities. Since the economic crisis of 2008, and due to budget cuts and depleted resources, the general public and governments became aware of what public expenditure should do for the broader benefits of the community.

The researcher reviewed how the term SV had emerged, from a parliament act and how its meaning depended on stakeholder interpretation, where it was difficult to name a definition that would cover all possibilities of how SV can be pursued, such as being apprenticeships, local purchasing and targeted recruitment. SV in this research was perceived as the social construct of reality, as a result of the soft non-financial outcomes of construction procurement. The research reviewed common types of procurement outcomes and how it was delivered in a public construction context, and what the challenges to the delivery process were. The challenges which were discussed were the inability to select what outcomes could be delivered, the lack of implementation methods and operational processes to guide stakeholders in the pursuit of SV, and finally, the subjective nature of measuring the impact of the soft outcomes. The above was perceived that the SV situation was problematic because it was not easily defined due to its subjective nature, and the different stakeholders perceived it differently, leading to a lack of clarification for users. Also, there was a lack of processes to guide stakeholders through different project stages and accommodate different stakeholders' perceptions about the project outcomes and SV, by providing a platform to achieve a level of consensus between the stakeholders. At this stage, it was clarified that the SV situation was problematic and would benefit from further investigation.

9.3.1.1 Construction Project Environments

Through further examination of SV in the context of construction projects, the projects were perceived as complex entities and required an organised approach to review them and their contexts. Accordingly, the research depicted construction projects as a system which includes subsystems and is a part of a supra-system with internal and external environments. The research reviewed factors, which the literature explained would influence construction project environments internally and externally throughout the research to further understand the problem situation and whether these same factors influence SV context. This examination provided further clarity about SV decision-making in the construction project. Hence, in this

research construction projects are influenced by external and internal factors with the former being external to the project and the latter being internal to it from a system's analogy. The external factors were perceived as the client organisation characteristics, the procurement route, the local context and the funding sources of the projects, with all these factors being external to the project control. Internal factors, on the other hand, were perceived as the design and construction characteristics (elements), supply chain behaviours and responses, project type (regarding being a one-off or part of a programme), project cost (being high or low). These factors formed the propositions of the research and the case study selection criteria. This section concluded that the client organisation dominated construction projects and SV decisions and whether they are public or private, large or small, primary or secondary.

9.3.2 Assess the suitability of a systems' approach in investigating construction procurement for SV

The examination of the situation proved problematic in being complex, because of the diverse range of factors influencing SV decisions, which were contextual and could not be dealt with generally. This created a need to select a methodology that would include the context, different conflicting perceptions and provide a structured approach to the investigation. Soft System Methodology (SSM) was suitable for SV investigation because it was designed to navigate through ill-defined situations which are difficult to solve and more challenging to define. SSM was suitable because SV had a different meaning for different stakeholders, so was more appropriate than any hard system methodology because hard system methodologies need a clearly defined problem which they can follow, with a known process to select the suitable solution. SSM utilised system concepts to investigate this problematic situation and produce improvement for this situation. In SSM, the inquiry has two streams; the first is the social stream of inquiry, which describes the reality of the situation and informs the researchers about how the situation is compounded socially by including different perspectives about it. The second stream is the logic-based stream of inquiry, where the HAS models are developed based on the conceptualisation of the different stakeholders, where these models are designed to improve the problem situation. HAS models consisted of activities which were developed to trigger debate and discussion between actors, to ultimately improve the situation.

9.3.2.1 Pilot Study and SSM Suitability

The research examined the suitability of the SSM to the SV situation and how data can be collected and analysed through a pilot study. The pilot study was designed to capture the perceptions of client organisations because they were perceived as the leading stakeholder in construction projects and were responsible for the pursue of social value creation. The pilot used focus groups and invited different types of client organisations based on their experience, sector, procurement portfolio and business model. The SSM (two stream of inquiry) was carried out by building a rich picture, which named the key stakeholders, their relations with each other, the relation with the project and how clients perceived that information and resources changed hands between the stakeholders. Data from focus groups were used to create HAS models about the situation and how it could improve through the activities included in the HAS models. In addition, the pilot examined the internal and external factors influencing SV in projects and whether other factors could influence these construction projects. The pilot

study helped the researcher to understand how SSM could be applied, how the research could deal with its disadvantages to benefit the overall research, and finally, adjust the research approach to achieve the research aim. In doing this, the GDCPP was integrated into the research methodology to overcome the high volume of activities produced by the HAS models, which created confusion to the users and stakeholders. Finally, the pilot study confirmed that factors affecting SV were the ones reviewed in the literature and narrowed the scope of the research.

9.3.3 Understand the different perceptions of key stakeholders about SV in their construction projects' procurement.

After the pilot study was complete, the internal and external factors influencing SV in construction project contexts were used as selection criteria for the main study, which consisted of four case studies to examine the propositions and investigate the problem situation. In these cases, construction projects were the units of analysis and were examined from a systems analogy, with external and internal factors affecting its environment. The first case was chosen because the client was a large secondary public client organisation and the project was selected because it was an English Heritage refurbishment project (design and construction), high value (project value), standalone project (project type) and was procured through a regional construction framework (procurement strategy). The second case was selected because the client was a highly experienced, public secondary organisation with an extensive construction portfolio. The project, in this case, was an educational construct (project sector), funded by public money (funding), it was procured through regional and national frameworks (procurement route), and the project was part of an extensive construction programme. The third case was selected because the client organisation was a private developer with an extensive construction portfolio, the project was mixed funded between private and public money, it was part of the sectors transportation infrastructure, it was a highly technical engineering structure (design characteristics) and finally, the project was directly linked to a residential area and therefore community. The fourth case was selected because the client was a small public secondary organisation with a small construction portfolio, with limited abilities and resources, and the project sector was housing (which was privately funded), with general design characteristics and the local context in a deprived area.

The large public clients in cases one and two had information about local context, knew how to select the suitable procurement routes, perceived what outcomes were suitable for their projects and assigned SV champions because they appreciated its importance. It was clear that the local market and business model influenced the client organisation in case three (as a private organisation) with SV being of long-term nature, which was aligned to their commercial ventures' management of long durations. This client considered construction activities as the enablers to their business and thus the client did not focus on delivering the full potential of SV from construction activities. In case four, the client (as a public client) had the local populations at the centre of outcomes delivery, because as a local authority this is their primary business. However, because they were a small organisation, they lacked the resources and capabilities to investigate the context and plan SV creation on their own.

Furthermore, for projects, their characteristics differentiated between them regarding how they were procured, designed, who their end users were, how their local context was structured, how

they were funded and how the supply chain responded in each of them. These characteristics formed norms for how each project performed concerning SV and in general. The first and second projects were successful in SV delivery because their procurement routes were suitable for the outcomes, the design elements were managed to produce as much SV as possible, and the local context was understood and utilised for the benefit of the community. In cases three and four, the client and the main contractors could not utilise the project characteristics for the best interests of the community as the characteristics (such as design and local context) were considered challenging and not as enablers of SV.

9.3.4 Assist stakeholders in thinking about suitable outcomes of their construction projects to create value for their communities and reducing the gap of knowledge between policies and operations

As indicated from the literature, there were no mid-level operational processes which guide key stakeholders' actors when they interpret high-level strategic SV objectives into operational outcomes. The above was due to the subjective nature of SV and soft outcomes which makes the development of a single process that would guide key stakeholders very difficult. The above was taken into consideration when the SVAZ was developed, because it accommodates the subjective nature of SV within the construction contexts where stakeholders' perceptions were used in creating activities HAS models which accommodates the project's level of complexity, client experience or market of business, main contractors' experience with local context and project characteristics and actors' perspectives of SV. The SVAZ includes key stakeholders' views about SV because SVAZ activities are developed from the perspectives of these stakeholders following the SSM approach, which relies on users' input to create the HAS activities.

The development process, how data was gathered, activities creation and the classification against the project stages, can be structured in an organised manner, but the activities and its content vary from being networks of complex activities to being simple linear activities. This approach supports the bespoke characteristics of construction projects, the subjective nature of SV and enables different stakeholders to create the activities, which triggers debate about their objectives and SV creation. SVAZ activities debate about SV was done against different stages of the construction. Accordingly, this approach is an operational level process to help stakeholders in the delivery of soft outcomes through their projects because it includes inputs from different stakeholders and provides multiple perspectives for each activity, and thus reduces the gap between the strategic objectives and the operational processes. SVAZ uses stages from SSM and the GDCPP as guidance for the project, because it was developed to create task orientated activities for different management disciplines. HAS models represent purposeful actions developed from interacting with the stakeholders which can be carried out to improve the problem situation and thus HAS models are not descriptions or simplifications of the real world which meant that they could not be validated using the hard systems modelling validation approaches. Accordingly, validating the HAS models checks the model competency through following the process of creating such models. The validation checks that:

- Selected HAS models fell between primary task and issue-based models with the former presumed as the organisational structure and the latter leaning towards the mind maps.

- HAS models had Root Definitions which described the model's CATWOE elements which are the Transformation process (T), (W) worldview of the model, (C) the systems client, (A) actors who carries out the activities of the models, (E) the imitating environment of the model and the Models' owners (O) who can stop or start the model.
- Modelling the HAS activities are logically dependent on each other based on their relationship and that the relations between activities are clear where contingent activities are linked with arrows to clarify the relations. The HAS models were validated through tracking back the activities of each model through the interview transcripts and their logical dependencies.

The SVAZ process was validated through the pilot study and the four case studies where the above validation processes were conducted for each case study and the pilot. In these cases, the perceived influential stakeholders of SV were perceived and interviewed, and the interviews included questions designed to develop HAS models and naming the CATWOE elements for each model. In summary, the SVAZ was validated within each case and across the four cases studies. Appendix F Shows the detailed SVAZ process after validation.

9.4 Recommendations

Based on the tested propositions of this research through to the findings and discussions of the intra-case and cross-case analysis, the researcher concluded the below recommendations for practice, theory, methodology and the relevant bodies of literature.

9.4.1 Recommendations to Practice

Through the research findings, it was clear that SV can be lost or get postponed to a point where trying to address it would be limited because addressing it should be simultaneous to hard management disciplines such as environmental and design management. Accordingly, there is a need to ensure that key stakeholders know what their responsibilities towards understanding what SV means for them their clients and the wider community. Not all stakeholders understand what SV is or how it can be achieved through their activities, even if these stakeholders are responsible for carrying out specific activities which lead to SV delivery, it was not guaranteed that they recognised this. Accordingly, this research recognised that client leadership could improve how key stakeholders understand their role and what they need to do to fulfil the client's perspectives. Therefore, it was recognised that the introduction of a new process would control the progress of SV in construction projects from inception to operations. The researcher recommends the introduction of a gateway process where activities that would lead to the creation of SV would be defined and tracked in terms of their progress, thus in assisting key stakeholders to manage SV as an independent discipline. The gates within the gateway process could guarantee that the projects do not progress from one stage to the next without fulfilling all the necessary activities regarding SV creation.

The adoption of the gateway process should be independent of the project complexity and thus whether the gateway process includes a complicated or simple set of activities should be irrelevant to the adoption process. The benefit for less experienced clients is that their staff members who struggle to understand the full process can see all the activities and when they are needed early in the project about all the necessary activities, and they will be able to track

them if the activities are internal. Because experienced clients have knowledgeable staff members, their organisations will benefit from the gateway process through involving external stakeholders such as main contractors, tier two suppliers and procurement vehicles in the delivery process, through informing them about all the necessary activities and their roles in them.

From the research, it was concluded that most of the activities needed for SV were needed during the business case development, the pre-project and the pre-construction phases. Accordingly, the researcher recommends that client organisations ensure they consider the delivery of activities in the pre-project phases, which are divided into four sub-phases as per the GDCPP. The four case studies concluded that sub-phases zero, one, two and three which form the pre-project phases, and sub-phase four, five and six which form the pre-construction phase significantly influenced SV. The influence of the client organisation on the stakeholders and SV decrease as the project progresses, and thus the influence during the pre-project phases are higher than the pre-construction phases which makes the activities during the pre-project phases essential for SV creation. The early development and planning of the pre-project activities will lead to improved performance of the project during the latter stages. Activities such as ‘defining the social objectives of the client’ and ‘investigating local suppliers’ capabilities’ lead to other activities, such as ‘selecting soft outcomes suitable for delivery within the project’ and ‘changing design or construction elements to suit the local supply markets’ in outline and full conceptual design phases. Accordingly, early planning and plotting of these activities will benefit the rest of the project and the success of SV creation.

9.4.2 Recommendations to Policy

As per the findings of the research, client organisations are the initiator of SV delivery and their leadership is needed to achieve optimal SV results. The client’s influence on construction projects is essential and especially significant for the delivery of softer benefits such as SV. Governments use client organisations as tools to deliver new, innovative and challenging solutions to their construction projects because of their ability to influence supply chains using their bargaining power. Supply chains aim to satisfy their clients by achieving any objectives set by these clients to win more work with the same clients, which gives client organisations control over choices of the project. The client organisations led decisions about procurement routes, design and construction elements, the nature of the relationship with supply chains and SV outcomes. This research indicated that clients should lead the delivery process, utilise business units to collect data, support supplier’s engagement, utilise the strength and avoid the weaknesses of their local contexts and assign their organisational champions to oversee the progress, the results would not be satisfactory, and no party would be inclined to deliver these objectives.

Accordingly, the research recommends that procurement policies would further promote the leading role of client organisations about SV and install it in utilising their construction portfolios to promote SV creation. It is acceptable to recognise the role client organisations public and private plays in leading construction projects for disciplines such as environmental and health and safety management; therefore, policymakers should consider how client organisations’ leadership in SV be presented in public policies promoting social wellbeing.

Given that SV can be challenging for smaller clients, these smaller clients will develop procurement policies which would address how these smaller client organisations can lead SV creation through their projects. Furthermore, public procurement policies which promote SV are mainly sustainable procurement policies which are currently dominated by environmental interpretations of these policies and their influence. Thus, central and local procurement policies should now consider SV as an independent topic to promote and acknowledge the subjective nature of SV within policy documents.

9.4.3 Recommendations to the Body of Literature

This research concluded that construction projects are dynamic within the internal and external environment, which influences performance and outcomes. The internal and external factors influencing the delivery of outcomes in construction projects would change from one project to another even if the same client procured these projects in the same local context because of that dynamic state. These factors are influenced by the procurement decisions made throughout the life cycle of the construction projects. The current body of literature investigated sustainable construction procurement regarding the environmental impact of projects and the different factors influencing the environmental performance of construction projects. The social value lies in the strategic procurement realm, and the decision made by stakeholders about their construction projects influence SV throughout the life cycle of these projects which needed to be investigated. Accordingly, this research recommends that future academic research investigates factors influencing SV creation from a strategic procurement perspective where the influence of these factors on the SV creation throughout the construction project is understood. Examining construction projects live influence on soft outcomes and SV creation can improve how decisions are made from stages as early as the building the business case which is where this recommendation can benefit key stakeholders in understanding the long-term impact of their decisions on their local communities and other stakeholders.

9.4.4 Recommendations to Methodology

SSM in this research was a problem-solving methodology which deals with ill-defined problematic situations and includes multiple perspectives which might be conflicting. SSM was criticised for being an interpretive methodology that could not improve the situation beyond the status-quo. Nevertheless, it was clear from the research that clarifying the status-quo and providing an explanation for users about current situations could provide improvements for situations independent of planning an intervention. Therefore, this research recommends that SSM was considered as a problem-solving methodology based on its ability to clarify and simplify the status-quo. Clarifying situations and creating a level of consensus between stakeholders with conflicting perspectives is an improvement for a problem situation even if there is no radical change in the situation.

9.5 Contribution to Knowledge

In this research, the knowledge gap was understood to be the confusion caused by the different perspectives of stakeholders and how stakeholders have conflicting opinions which was confusing. In addition, the gap between what the strategic objectives of these stakeholders have for their construction projects and the inability of the procuring organisations and their supply chains to interpret these objectives operationally, was apparent. Finally, the inability to justify

decisions towards SV creation and the delivery of soft outcomes which clients can utilise against public scrutiny was highlighted. Accordingly, this research contributed to knowledge through, firstly, accepting that SV will be perceived differently from stakeholders' positions, through adopting a social constructionism epistemological stance. Whether it was the client organisations, the main contractors, the subcontractors or the local communities where construction projects take place, viewing SV can be different and add value to them based on their interpretation. It was understood from this research that key stakeholder organisations could claim SV, according to their views, through delivering construction procurement outcomes with a soft nature, which are named, planned and created according to a consensus between these stakeholders. This research offered an understanding about how client organisations' interpretation of SV can be according to their business models, the circumstances of the communities they serve and how this interpretation influences the types and volumes of soft outcomes delivered by the main contractors and their supply chains. This research provided an understanding about how construction projects' internal and external environments influence their soft outcomes and eventually SV creation where decisions made by stakeholder organisations with awareness about what influences construction projects internally and externally produced satisfying results for involved parties. Whereas, a decision made with limited awareness about construction project environments produced outcomes which were perceived as not satisfying for the key stakeholders.

The research perceived that construction project contexts are unique, and this context should be considered when aiming to create SV and soft outcomes by clients, main contractors and their suppliers. Understanding the unique context of these projects was challenging because of how different actors understand SV outcomes and construction projects. Accordingly, this research developed a process to assist actors within key stakeholder organisations to reconsider their views about SV and soft outcomes when procuring construction projects and how these outcomes could be delivered. The SVAZ process uses the SSM to socially construct an understanding about the context and situation of the construction projects and provide a level of consensus between stakeholders about what the outcomes can be and how they might be delivered. The process can be used by actors to conceptualise SV creation as a result of a diverse range of activities which are created based on the views of actors from different stakeholder organisations working in the project, which provides a level of consensus to enable these actors to work towards a common goal. The activities created by following the steps of SSM and investigating the problem situation and organising these activities based on the GDCPP phases for a construction project, which start from building the business case to the operational stage according to the suitability of activities to each stage. In each stage actors can have a debate about these activities and how can they add to the project outcomes and why such activities can contribute to their SV creation.

Accordingly, the SVAZ process contributed to knowledge methodologically through integrating the use of SSM, which is a problem-solving methodology, that aims to investigate soft ill-defined issues with GDCPP, which as a construction project management tool is based on hard systems thinking. Integrating both the SSM and the GDCPP enabled actors to think about SV in a structured manner. To clarify, this research indicated that integrating both the SSM and GDCPP can overcome the disadvantages of SSM modelling which was the creation

of numerous activities through the HAS models, which confused users - who were faced with a high volume of activities which they needed to utilise. One of the major criticisms of SSM was the limited ability of its modelling processes to provide a structured approach towards thinking and debating about the possible changes due to it being confusing. Thus, this research attempted to overcome this challenge by integrating GDCPP which provided a more rigorously structured approach towards thinking and debating problem situations. This research also presented an introduction for a new Activity Zone of the GDCPP which can deal with softer subjective disciplines such as the creation of SV. The new activity zone is an addition to what the GDCPP traditionally dealt with regarding distinct disciplines such as design, resource, facilities and health and safety management, against the new softer disciplines such as SV and sustainable development.

9.6 Implications

From the in-depth study of the existing literature of using construction projects as a platform for SV creation, it was perceived that previous investigations did not consider naming the key stakeholders who influenced the decision-making process and what factors were depicted to influence their decisions about soft outcomes and SV creation. This gap was further deepened by the absence of processes which would incorporate different stakeholders' perspectives about what SV can be from key stakeholders' perspectives and the inclusion of contextual subjective nature of SV in the decision-making process. Accordingly, based on the soft systems methodology and the Generic Design and Construction Process Protocol, this study developed a process which enables stakeholders to include subjective conflicting views about SV, provide a level of consensus between the stakeholders about what they aim to create and take into consideration the factors which influence construction projects procurement. The process was used to create a debate between stakeholders and encourage them to reconsider how they perceive the delivery of soft natured outcomes and create SV. Accordingly, from the four construction projects' case studies, this research has several implications for future research and practice.

9.6.1 Implication for Research

This research holds several implications for research communities conducting future research, which is the norm in most contemporary research. These implications, which provide the platform for future research conducted by other researchers, will rely on the research findings, the research methodology and the research limitations. Accordingly, this research holds the research implications set out below:

1. The SVAZ process provided a new platform for investigating and understanding of SV from a construction project perspective using systems thinking concepts. Furthermore, the new process will assist researchers to incorporate multiple stakeholders' inputs because the SSM element was designed to include multiple perspectives of SV from a diverse range of stakeholders.
2. Based on the SSM methodology in this research, future researchers will be able to develop research frameworks for soft, ill-defined issues (similar in characteristics to SV) in a construction project context from a client organisation perspective. SSM is suitable for

investigating the diverse range of complexities and uncertainties in construction projects, whether these issues include SV or not.

3. As a PhD study, this research applied a multiple cross-sectional time horizon in different types of construction projects, during procurement, construction and operation. This approach provided sufficient evidence to carry out the research and understand the investigated phenomenon. Nevertheless, having a longitudinal time horizon would be interesting for this type of research and thus future research should investigate the implementation of SV across a longer time period or the full length of the project to capture the impacts of SV on local communities accurately and understand what happens in a local community after construction projects were completed.
4. Although the use of SSM and development of the SVAZ provides an understanding of the whole delivery process, from the formalisation of needs to the operational stage of the project, subsystems focused on different stages of the project. However, the methodology could be used to focus on investigating the earlier pre-project phases in construction projects, because it would provide an in-depth understanding of how SV was developed in these early stages. Zooming in on the subsystems of these phases could enhance the understanding of SV development and what influences them at these critical early stages.
5. Client organisation characteristics influence all aspects of SV and could encourage or suppress suppliers' efforts in projects; this was one of the main findings of this research. Hence, it would be beneficial if future research could investigate client organisations internally, independent of the construction projects' context, or the drivers for SV, and how various types of construction clients manage and deliver SV.
6. Strategic procurement decisions influence all aspects of construction projects throughout its life cycle regarding SV creation, soft outcomes delivery and decision justification. Accordingly, future research attempting to understand the life cycle considerations of SV during the procurement decision-making process would enhance how stakeholders' decisions about SV in different stages of construction projects.

9.6.2 Implications for practice

This research was based on the lack of operational level processes which would help the stakeholders by encouraging them to reconsider whom they think about SV in construction projects in practice, because it was necessary for construction projects. Accordingly, this research has several practical implications, which are:

1. The SVAZ process can be used in public or private projects by stakeholders who are interested in exploring new innovative ways to think about soft outcomes delivery and SV creation through their projects. Given that there are multiple management disciplines in design, resources management and project management, there has never been the same approach in SV, which provides an opportunity to improve SV perceptions of stakeholders. SV should be dealt with as an independent discipline to be managed throughout the lifecycle of construction projects where stakeholders acknowledge its subjective nature and deal with it accordingly.

2. Different factors influenced soft outcomes of construction projects, but local context had significant influence over the SV decision-making process. Thus, further understanding about local context could be carried out for the greater benefit of the community, because stakeholders must have the understanding and information about what the local community needs or what it had to offer regarding supply market capabilities. Hence, understanding local communities' impact and how they may be impacted upon by the decision making around SV will have a significant improvement to SV creation.

9.7 Research Constraints and Limitations

The limitations of this research were based on the nature of SV being subjective which lead to the selection of the SSM to approach the problematic situation to investigate what SV was in four case studies. Accordingly, the research had time and resources limitations when doing the case studies because the researcher planned to interview individuals exceeding representing what the researcher named as the key stakeholder organisations (clients, main contractors, subcontractors) to include what tier 3 suppliers and individuals from the local populations. Nevertheless, this proved to be difficult because of the time constraints and low level of influence of third-tier suppliers on SV decision making which was understood in the pilot study. Access to interviewees proved challenging in a certain time frame wherein case study 3, for instance, it took more than nine months to secure an interview with the two subcontractors. Owing to the time limitations of the PhD, the data collection achieved data saturation within case study four, where the interviewees provided similar perceptions about SV creation and soft outcomes delivery.

Furthermore, the ontology, methodology and research strategy were designed to provide contextual generalisation when the empirical evidence of such contexts are similar which was achieved within the four case studies being done within the same time frame and the close geographical region. Accordingly, the findings of the research could be applied on construction projects within the same region and time frame, however, the research does not provide theoretical generalisations for all projects because of the context and time factors. The above was a limitation for the research but was part of the research design from the start of the study. It owed to the subjective nature of SV and how contextual it could be based on different perspectives of key stakeholders and actors within each construction project. Finally, because of the time limitations of a PhD research study, the researcher could not apply the SVAZ to create a debate between stakeholders about SV on a live project and then assess the impact of using such an approach. Hence, there is a limitation to how the SVAZ process can be examined and applied in practice. Nevertheless, during the last four months of the PhD, a local council within the NW region began applying the SVAZ process in one of its projects because of their aim to include SV in the projects' business case and procurement model.

9.8 Researcher's Reflections

Looking back at the research, its approach, methodology and findings, the researcher has attempted to reduce personal bias as much as possible and ensure that the research process was rigorous and valid, and that evidence was analysed independently of any influencers. However, before and during carrying out this research the researcher could not shy away from personal interest in improving SV creation through construction project procurement. The reason was

that previously, in a different context, the researcher worked in infrastructure projects that did not have added value or social benefits for local communities. Thus, the lack of social consideration had a profound effect on a personal level in showing an appreciation of what public and private client organisations were trying to deliver, even if the results were not satisfactory at times. In now having completed this study, the researcher views the work as not only a professional achievement but also as providing personal satisfaction in potentially improving construction projects concerning their social value to local communities.

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Appendix A

Rich One Picture Description

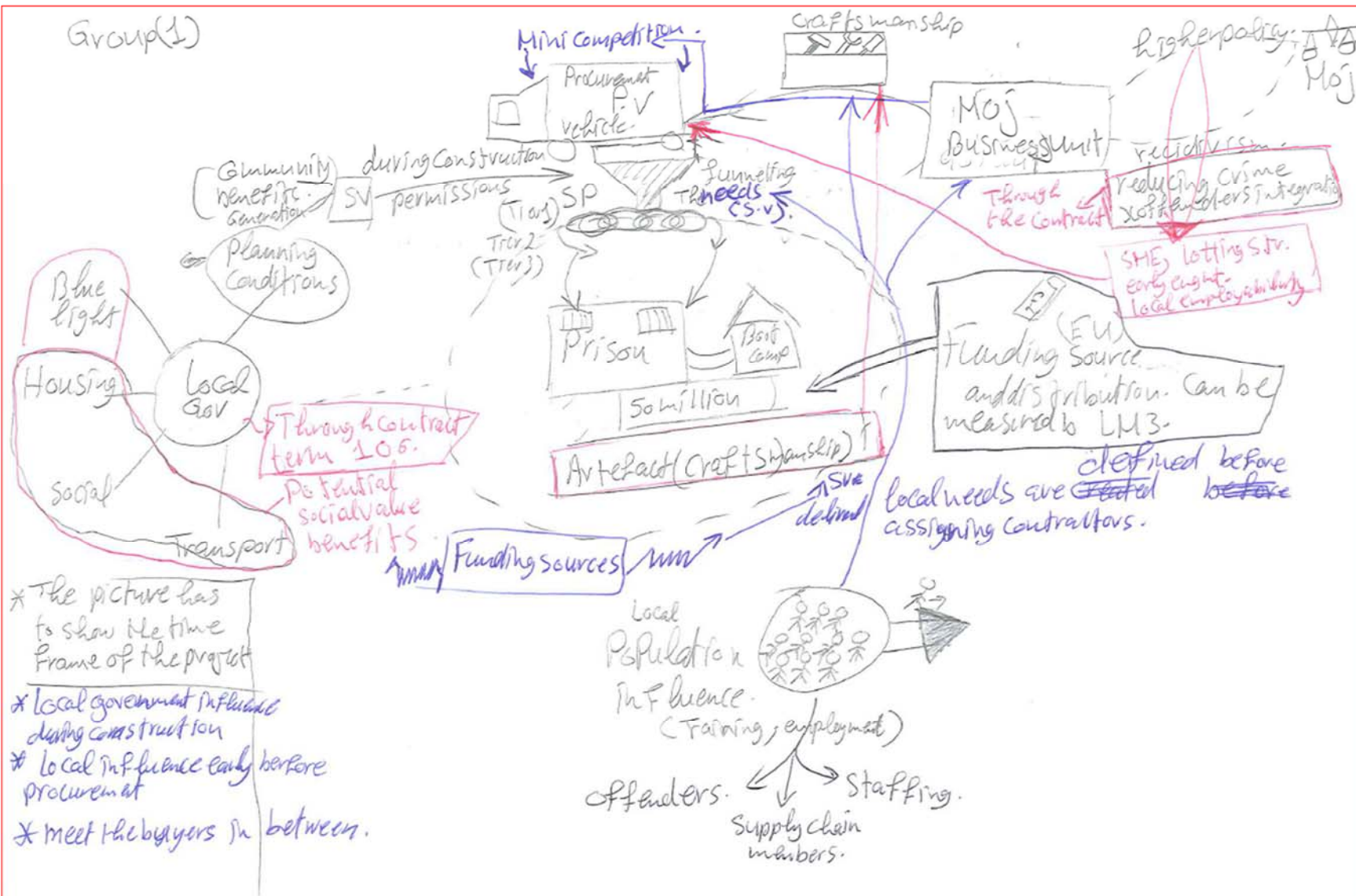
The rich picture describes the relation between different organisational entities and who is responsible for the definition of SV. This was retracted back to what the organisational strategy was about SV. The theme was about supply chain involvement and what SV was for them. The picture resorted back to the way the money was spent and how the contract was setup for delivering SV. Recidivism and rehabilitation were visited as part of the much-needed outcome of this project and investment. The way local government was used in delivering and supporting SV was using contract section 106 which could vary from local housing to other aspects of SV with x-offenders wanting to integrate back in the community with the housing being offered for their support. Stakeholders and their roles were discussed where the local population needs, and requirements were taken into consideration when planning this project. Local authorities and their role in planning and projecting local population's needs were discussed and a gap between these were found where relying solely on section 106 to fulfil local needs is not enough. LM3 was a method to support local businesses where it results can be used to manage local expenditure. A question that arose from the picture was “does the client keep the facility after completing it and run as an asset to gain as much SV as possible from it, or do they sell it to Kapita and lose control over it?”

During the exercise the following points were discussed:

- Questions “*how much money do you have?*” “*How much time do you have?*” “*when do you want to build?*” can lead to the right procurement choices;
- A local construction company can be a member of a framework, therefore justifying the procurement choice of a framework;
- In the framework contractors are asked SV questions to get accepted in the framework;
- The client should pick up or choose an existing framework with SV delivery track record;
- A contractor working in a certain locality will be aware of the local content and abide by its influence on its business;
- In open tender MOJ can choose to put local benefits into ITT or as contract terms;
- Local content (SV) is identified in the MOJ business unit responsible for the project delivery prior to any procurement choices;
- Because it is an MOJ specification, the liberty of choosing contractors is limited hence the generic concept of local businesses participation can be restricted;
- Off-site manufacturing is a standard method of delivery in MOJ projects which draws the procurement choices towards framework due to standardisation;
- Meet the buyer events, local supplier gatherings occurs after the main contractor is chosen;
- The chosen framework should be a national framework because of the nature of the project in the artefact delivered;
- As part of the planning permissions local governments have an influence on the project SV and community benefits outcomes which can be initiated during the process of construction after the choice of the main contractor;
- A process of mini competition with a scoring mechanism along with a weighting system which includes SV is implemented (the process is chosen by the contractor);

- The framework itself should have a Lott strategy, SME policy early engagement with the clients, training and development of local contractors and local employability schemes within its boundaries;
- The local population should influence the choices within the project local areas having high unemployment as problem to be solved;
- Local population might raise the location as an issues for local suppliers or local employees;
- Preventing reoffending can be considered as a SV (Contract term 106) along with the possible transportation improvement (Blue Light) and housing;
- Finance sources can influence how SV is approached based on the organisation responsible for the money;
- LM3 can be used to track local expenditure going into contract, it can define what are the businesses employed in the local market in their project;
- LM3 can be reported in the contract where explanations can be made to justifying expenditure patterns;
- This cannot be mandated in the contract;
- SV to be delivered is concluded from the higher values of the MOJ organisation where reducing crime is tracked to the MOJ ultimate vision;

Group(1)



Rich Picture Two Description

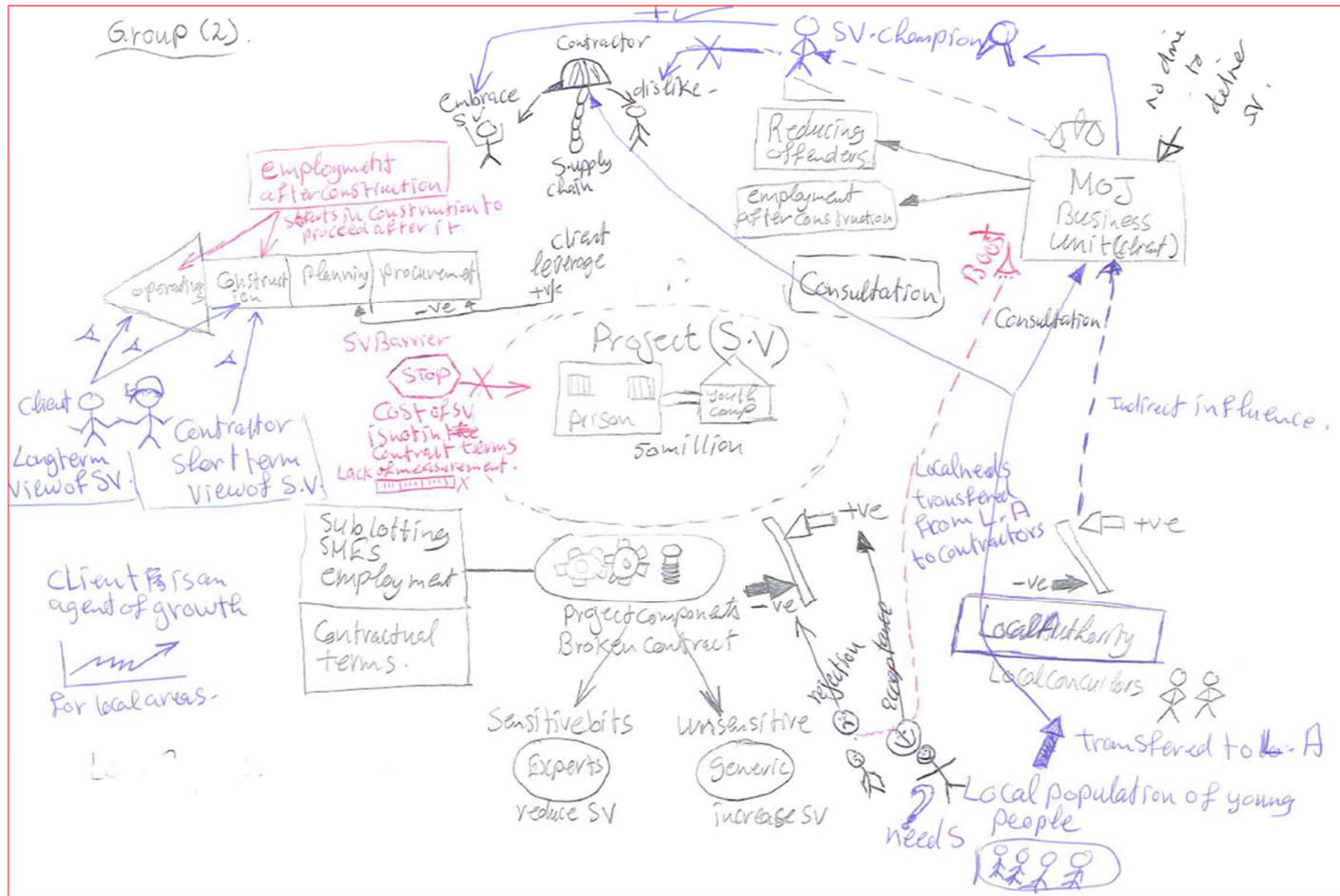
The rich picture describes the delivery of SV the prison construction project. Aspects and attributes in relation to the SV delivered through this project were examined. The initial discussion was about the definition of SV for the project and what it can achieve for the community. Barriers such as not allowing x-offenders to work in the property was found and had an impact when planning the delivery of SV. Policy gap of what can be delivered as SV was discussed with forms of SV not being allowed due to certain policies. Who are responsible for paying for SV delivery where unconformable discussions between the client, contractors and consultants about what the client strives to achieve without specifying where does the finances come from for these ideas, this was seen as being a barrier. Labour EU regulations were discussed to obtain an understanding of local jobs can be delivered without conflicting with the OJEU regulations. It was found that recommending a local agency for the main contractors is not against the EU procurement rules and regulations. The negative image of the prison was reviewed to assess what is its impact on SV outcomes and if this negative image can be challenged with what the actual benefits for the local community can be. The drivers of SV were found to be the possibility to divide the contract into smaller portions to overcome the problem of having specialised product, an approach by network rail can be used through determining the volumes of work assigned to local SMEs and their impact on the local market. Joining up training and apprenticeship programs are viewed as a method to improve training programs and make sure that it is long enough to change the trainees' career path. The leverage the clients have early in the procurement and before that is key to the delivery of SV where once it is passed this point political power cannot be used to deliver any extra outcomes. The SV champion who delivers it has a key role to deliver the planned outcomes.

During the exercise the following points were discussed:

- The sensitivity of the project being a prison facility is what impacts the project as it decided on what type of artefact it can be.
- In addition to the sensitivity of the project as having influence on SV rather local authorities and local councillors have their own influence on SVs as well.
- For this particular project due to it being a specific artefact, the contract can be broken down into different types based on the attributes and sensitivity of the product in hand where specialist contractors can bid on their work regardless of being able to deliver SV or not. On the other hand, unspecialised works can be offered with the needed SV as its core requirement. This will enhance the opportunity of employing local workforce, local supply chains and provide training programs for the local community.
- The German example of having to employ long term unemployed people and within doing that let's build a track or school.
- During the construction phase it will be too late to plan any employment programs especially when sustaining these jobs after the project completion is targeted. However, to start this process and plan it adequately it should be done prior the initiation of the construction phase.
- Contractors perceive SV differently where some are interested in delivering community benefits and economic growth to the areas they are working in and some might only be interested because it is the client's requirement so during the process of procuring clients have to make sure that they choose the contractor who is actually able to engage actively with SV delivery.
- Clients have the political influence in the project to influence the contractor in what they would deliver.

- Local population needs are well known and expressed to the local authorities where the stability of the local authorities in the community is key to their knowledge. Whereas, contractors having to move from one project to the other with different local content each time they do not look for lasting benefits, but only for the duration of the project where training locals who depends on the local market to work and sustaining a job after the project is done might not be of their interest. Clients with different locations projects to manage such as the MOJ are not equipped to identify the needs for local population.
- This is due to contractors having a short term view of SV compared to clients who would prefer a longer term benefits for their investment.
- Cost is also a barrier to the delivery of SV where training programs, apprentices and employment opportunities have a cost which no organisation is ready to be accountable for.
- SV cost is not included in contract terms because of the lack of a cost benefit analysis to justify the choices.
- Other clients such as network rail clients have a different model of stimulating the economic growth of a certain area where they are active which can trigger more schemes for this certain areas than a train service provider can offer. This occurs through developing a business case for these areas on a case by case basis to stimulate the economy with the local agenda being incorporated within.
- Clients of any type has a duty towards the social environment through considering the delivery of SV through their procurement activities.
- For a Human Activity system by a participant an idea of splitting development projects into stages and committing the developer for each stage to support training and employment programs. HAS could be to extract training programs for more than 20-30 years of the development with the developer committing to each stage and using its business volume to tend to local needs to deliver SV with the argument of the developer investing in a certain area so what will the community get to benefit it back.
- Public clients which the government cannot afford for it to stop, such as Sellafield, will have the support of the government to deliver SV in order to keep community faith in such organisations which is different than regular clients.
- The success of SV will decide on how the prison is viewed in a local area can be delivered through the local community. Creating a prison does no benefit the image of the local community because of the possible negative image of a prison in general, however with the possible positive outcomes that such facility has its image might improve.
- Post procurement stages means that the client have lost almost all of its leverage to plan, create and deliver SV for a construction project where, procurement can allow sufficient time for the delivery of the SV.
- During planning to get construction permission contractors have to offer certain aspects of SV to fulfil the 106 term of public contracts.
- A client can name a source which every bidder can use to recruit their workforce, apprentices and training programs which complies with the European rules and regulations and to create a levelled field for bidding across Europe. It also allows the targeting of deprived communities which the recruitment source deals with and engage with. This is how targeting a certain community could occur without having to go through procurement malpractice.

Group (2).



Rich Three Picture Description

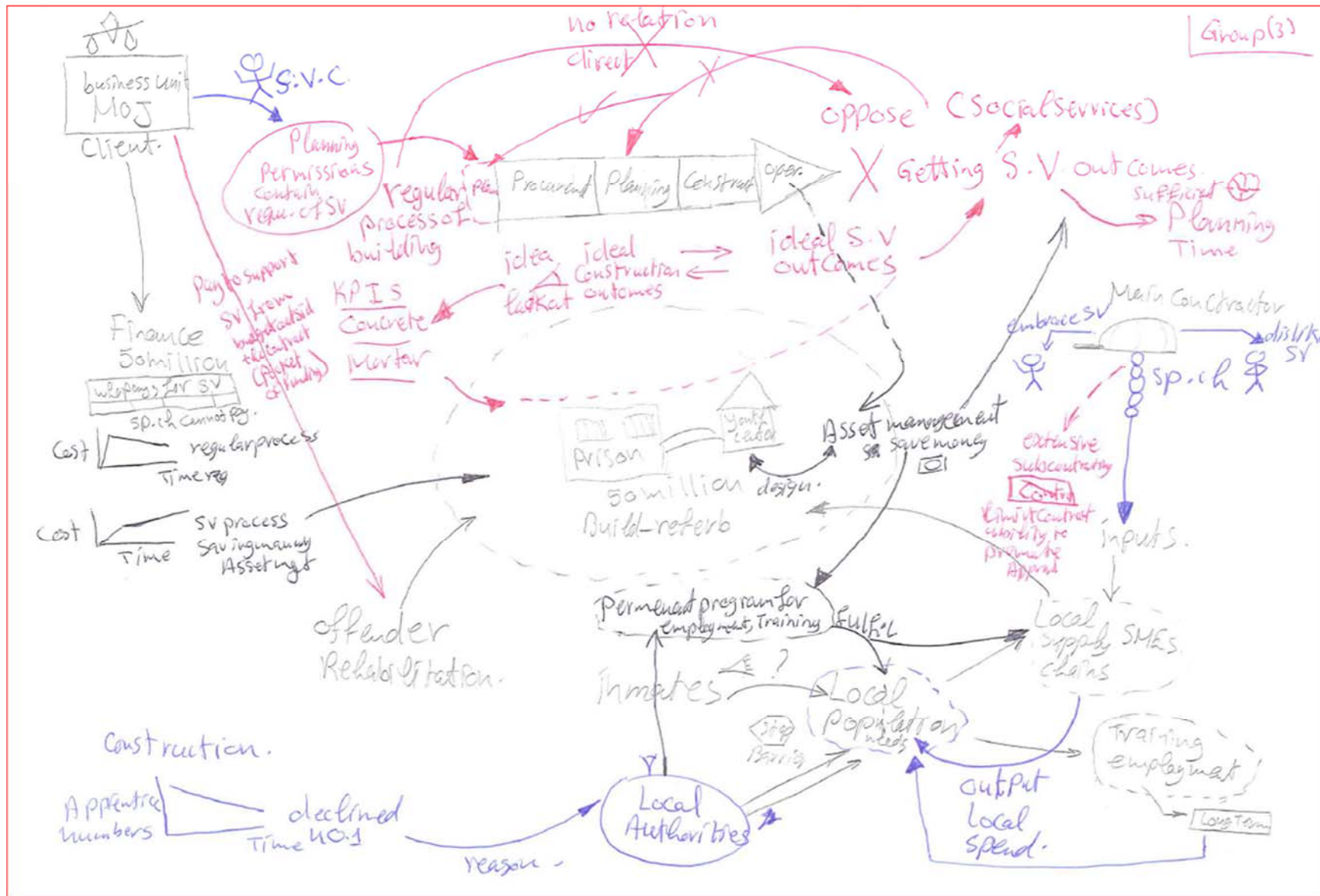
This rich picture describes the SV aspects which could be generated from the project and what would affect it. It tried to identify some of the issues around the subject of having 50 million to spend on a refurbishment and new build and whether it should be of a one-off nature or looking at other sustainable longer-term solutions that would require linking this project to other issues that is going on the locality of Skelmersdale. In terms of the opportunities that are reflected by the investment that are put into this building for achieving SV were jobs on the contract, training on the contract, the role of the facility in the community on the longer term socially and economically. The longer-term role of the facility would be the operations and facility's management and the economic activities that goes along with it on the longer term.

The local content would be critical for the delivery of SV hence linked directly to the expenditure if any SV is to be expected. The SV of creating local jobs and training is basic but wider benefits could result from a project such as this one where the MOJ could use this project to rehabilitate offenders where if having trade in hand they will probably not offend. It was agreed that what happens long way before procurement is what determines the outcomes, so not just preconstruction and preplanning but back about how this will work with building the project's business case. The early approach to solving these problems would optimally define the type of SV to be delivered from this project. Public procurers have to be sufficiently informed about how SV should be embedded in the process of construction delivery in order to dictate and lead the relationship with their main contractors and supply chains.

During the exercise the following points were discussed:

- There is a question of the ability to link between having inmates in the prison project and using them in the actual work.
- The first opportunity of having SV could be employing local supply chain members and SMEs which is the input to the SV of the project where the output would be the local spend which they would create in their markets.
- Construction process is opposed to the ideas of delivering SV outcomes therefore, it is best if ideal construction outcomes are thought about aside from ideal SV outcomes and then attempting to link both.
- The Salford Media City project was given as an example as of not being able to reach the full SV potential of the project from an expert point of view, saying that not enough time was put into the planning of the SV delivery of the project and that the case in hand should have proper time to plan the delivery of SV.
- Planning for the project should long before the procurement initiates where the ITT and PQQ should have something that would allow optimum SV outcomes to yield from the process of construction. So when the time comes to deliver choose a contractor proper ideas would have developed.
- Saving money from the design which will reduce the cost of running the facility could be poured into the delivery of SV. The cost time relationship could be changed from the regular approach to less expenditure at the beginning of the project in order to finance training and operational programs which would yield SV.
- The time allowed for planning which is pre-construction should be effectively managed in order to prepare SV delivery targets. And this is the most critical duration of the project life cycle.

- The definition of the word apprentice is confusing among different stakeholder and their perspectives. The duration which could have been three month to a year creates a struggle in the definition for a single project.
- Due to the extensive subcontracting of the construction for any project the main contractor are not the party actually constructing which hinder the ability to develop SV such as apprenticeships with no occurrence of contract clauses which support the delivery of SV the construction system regularly do not deliver SV.
- The potential benefits of the 50 million pounds of investment would be there in the long term for the local economy and employment market.
- Based on the size of the investment made, permanent programs for training and employment can be planned where supply chain members working in the operation of the prison could participate in what this program has to offer.
- Planning permission contain certain SV requirement which can be used to deliver part of the needed outcomes of SV.
- The types of contractors would mark the ability to deliver any form of SV where some include this sort of outcome in their business models and some other do not, hence, the how the client can choose its contractor makes significant difference.
- The type of the facility would determine the impact it has on the community in years to follow with its operation.
- The question that needs an answer is who pay for the cost of SV delivery which could not easily be answered, with lower level contractors in the supply chain position are not able to deliver SV to the level that is needed.
- Delayed payments by main contractors can damage the programs of training developed by lower level supply chain members where inconsistent cash-in flow would discourage them from delivering SV at form.
- The SV can be funded by pockets of money by local authorities and clients' business units to support programs of training and apprentices through their projects, with the pockets of funding being extra to the construction project expenditure.
- This idea would make it SV spend with a construction contractual element, through ring fencing two million out of the contract just for the sake of SV and bidding effectively for the rest of the 48 million without having to ask the main contractor to pay for SV. Woltanshuungen is that the construction industry should not be concerned with solving these SV by themselves with the local authorities and public sector clients are the ones who should be focusing on these issues. Their real contribution to the world would be the physical facility itself.
- Fixed prices of material and petrol leave little room for cost management which is achieved through labour management leaving no room for supporting programs of training and employment.



Rich Picture Four Description

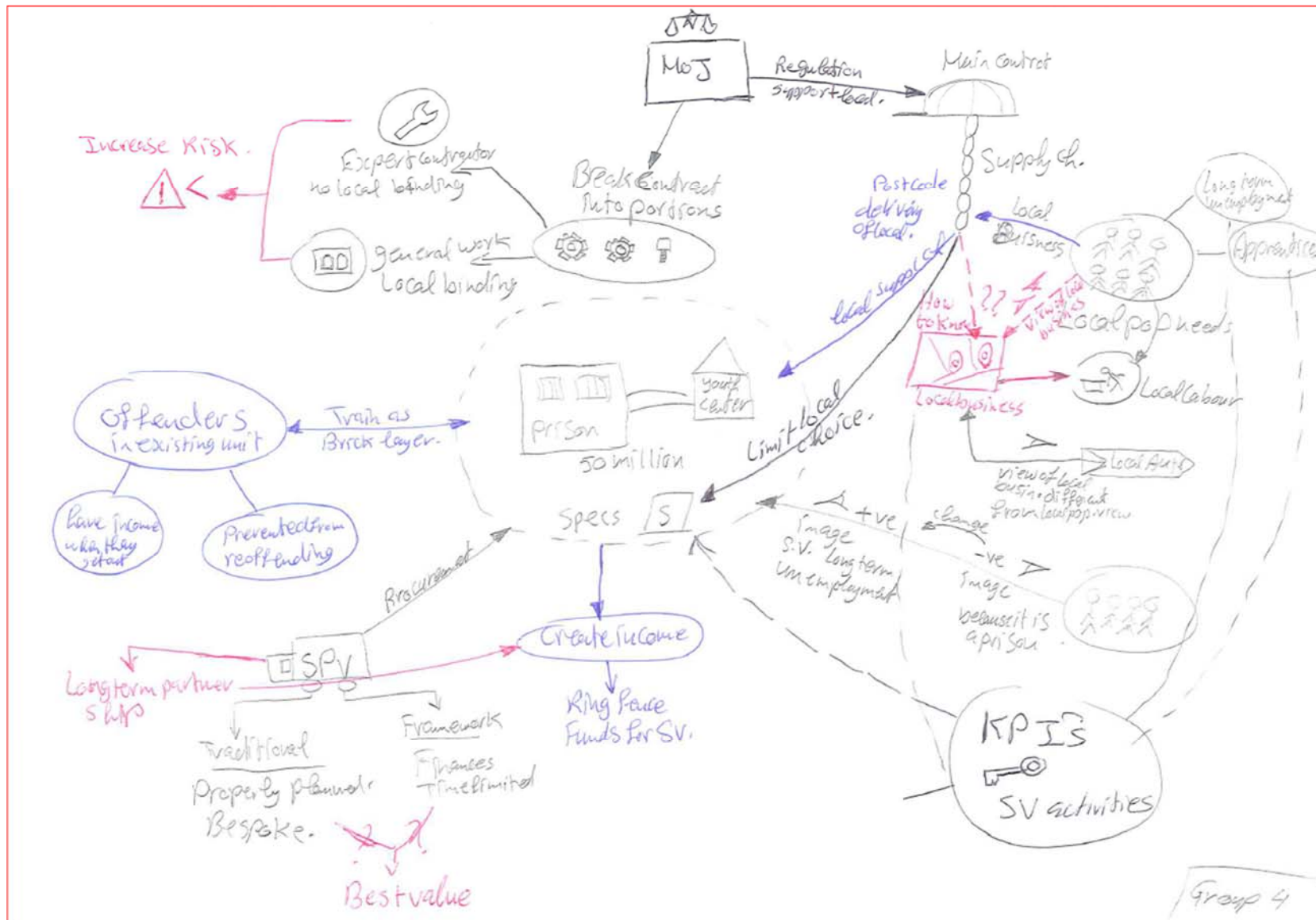
This rich picture describes barrier round security about to include ex-offenders and whether the skills that are needed to support this project existed. The key point found was engaging local government because they are the best source of information about the local population and their needs, they understand the planning process and can help therefore, making sure they are engaged can support the delivery of SV. They understand the skills existing locally, SMEs the apprentices needed. Contractor's role in delivering SV and delivering it through met the buyer events. It was found that bringing social enterprises within the project has a role to play when dealing with security issues or looking for funding for social inclusion programs. Creating continuous income from the project can have grave impact on the SV delivered and can transfer it from short term construction duration value to longer term 20 to 30 years.

During the exercise it following points were discussed:

- Supply chains members should be local SMEs to deliver SV for the local community using postcode mechanism of choosing local closer to the project. Despite using postcode mechanism there is no guarantees that this might serve local businesses which depends on the type of business they have.
- The definition of the word local is difficult to control with the population having different perspective of what can be local than local authorities might have.
- Energy saving schemes might allow the client to attract government money in order to deliver SV to the community.
- The local population would represent several needs which could be apprentices, long term unemployment solution, local SMEs to solve the skills shortage issues.
- For building a prison it is not easy to offer apprenticeships for local population because of what the project negative image might have.
- Another barrier for the client would be the availability of SMEs which have the experience to build a prison facility with all the special work and specifications of the facility.
- For a facility of this type having to provide a service that is much needed such as long term unemployment would probably change the image of the facility in the local community perspective.
- The possibility of breaking the contract into lots which can be used to support SMEs or use specialist contractors for certain portions of the contract and local contractors for parts of the contract which would not require specialist ones. Taking lotting into consideration can have an impact on the SV delivered where local economy can thrive on the volume of the investment.
- Another SV would be to use x-offenders from the existing facility in teaching and training them for a craft such as brick laying where they would be prevented from reoffending which can be considered as SV outcomes.
- Section 106 of the contract can support the delivery of SV from a local authority point of view.
- The procurement route to be chosen based on the time available for the finances where limited time would encourage clients to choose an existing framework agreement, whereas, if time is available then a traditional procurement route would allow sufficient time to plan and execute bespoke solutions without breaking the EU procurement rules and regulations.
- The client will choose the procurement route based on the best value which they can get from. If the goal is to have the maximum SV outcome, then a long term relationship

with a contractor with the option of running the facility would create such opportunity and improve SV outcomes.

- Bench marking the activities which lead SV delivery is key to success where apprentices, local SMEs use and training attendance monitoring would inform the client of their performance which can then be effectively managed.
- Apprenticeships are calculated with weeks not per person which can make it more effective which is better than an apprentice per million.
- Local authorities would know what projects are coming on and what form of employment might be needed.



Pilot Study HAS Models' Activity Classification

HAS Model A Activities	Phase Choice Justification
Review project sector design and construction Standard	Phase 4 Outline conceptual design because of design and construction investigation starting at this point
Map out local design and construction suppliers	Phase 2 Feasibility studies because knowledge of local market is developed before design decisions are developed
Develop multiple design and construction options suitable for the project and the sector standards	Phase 4 Outline conceptual design because outline conceptual design stage can include multiple solutions before choosing a single option to pursue
Choose project's design and construction options available in the local market	Phase 5 Detailed conceptual design because at this stage a single design choice is selected for the detailed development
Monitor the selection of the project's design and construction options suitable for the project and sector standards	Hard Gate 2 because the monitoring exercise occurs before the design moves to the final detailed design.
Take control action to ensure the selection of the project's design and construction options suitable for the project and sector standards	Hard Gate 2 because actions are taken to ensure the designs are suitable for the local supplier before finalising the design.

HAS Model A Activities' Classification According to the GDCPP Project Phases

HAS Model B Activities	Phase Choice Justification
Identify project funding sources and total budget available	Phases 2 & 3 Outline feasibility and substantive feasibility study and outline financial authority because at these phases budget available and financial authority can be clearly identified
Calculate the project's design and construction budget	Phase 3 Substantive feasibility study because calculation of the budget follows the outline feasibility study in phase 2
Investigate local training & apprenticeships programmes requiring improvements	Phase 1 Conception of need because local context investigation takes place before any design or financial decisions
Choose a percentage of the project budget to be invested in training and apprenticeships programmes	Phase 3 Substantive feasibility study because this allows enough time before finalising the budget decision
Calculate the cost of improving local training and apprenticeship programmes	Phase 2 Outline feasibility study because this activity should occur before deciding how much of the budget should be assigned
Ring-fence a percentage of the project budget for training and apprenticeship programme improvement	Phase 6 Coordinated, design & procurement & full financial authority because full financial authority allows the ring-fencing of the budget percentage
Monitor ring-fencing a percentage of the project budget for training and apprenticeship programme improvement	Hard Gate 2 because the systems activities preparing for the ring-fencing itself occurs in phases 2 & 3
Take control action to ensure ring-fencing a percentage of the project budget for training and apprenticeship programme improvement	Hard Gate 2 because the actions to ensure the ring-fencing should occur before finalising the budget.

HAS Model B Activities' Classification According to the GDCPP Project Phases

HAS Model C Activities	Phase Choice Justification
Define SV objectives to be delivered through the construction project	Phase 0 & 1 Demonstration of need and conception of need because SV objectives should be defined as early as possible with the building of the project business case
Review available procurement options to procure routes suitable for the project characteristics	Phase 3 Substantive feasibility because investigating procurement occurs during the feasibility studies to know the details of its cost.

Include SV requirements as a core objective in the procurements requirements	Phase 6 Coordinated, design & procurement & full financial authority because procurement decisions are made at this stage
Select suitable procurement route for both the SV required and the construction project characteristics	Phase 6 Coordinated, design & procurement & full financial authority because procurement decisions are made at this stage
Monitor the inclusion of SV requirements as a core objective in the procurements' requirements	Gate 3 because these activities should performed before the procurement stage is finalised and the construction phase starts
Take control action to ensure the inclusion of SV requirements as a core objective in the procurement requirements	Gate 3 because these activities should performed before the procurement stage is finalised and the construction phase starts

HAS Model C Activities' Classification According to the GDCPP Project Phases

HAS Model D Activities	Phase Choice Justification
Identify tier 2 supply chain members procured to work in the project	Phase 4 because identifying tier 2 suppliers occurs when the design is finalised and through reviewing supply chains
Define SV outcomes planned to be delivered in the construction project	Phase 1 & 2 Demonstration of need and conception of need because the SV outcomes are linked directly to business case building
Review supply chain strengths & weaknesses in SV delivery	Phase 5 because it occurs after identifying the tier 2 supply chain members
Select suitable SV outcomes to be directly delivered by tier 2 supply chains	Phase 6 Procurement because this activity occurs when client selects the supply chain and has the power of the agreement with its main contractors and suppliers
Deliver SV outcomes directly through tier 2 supply chains	Phase 7 & 8 Production and construction stage because in both phases SV outcomes are delivered and can be tracked back to the tier 2 suppliers
Monitor the delivery of SV outcomes directly through tier 2 supply chains	Gate 4 because monitoring and taking control actions to ensure SV outcomes occurs when the construction starts
Take control action to ensure the delivery of SV outcomes directly through tier 2 supply chains	

HAS Model D Activities' Classification According to the GDCPP Project Phases

HAS Model E Activities	Phase Choice Justification
Identify the local authority's construction volume of work	Phase 1 & 2 because the client has the time and influence to investigate their project volume of work before any commitments
Review the status of trainees and apprentices in the construction project	Phase 7 because it occurs once the training and apprentices start when the production and construction start
Develop options of training and apprenticeship programmes suitable for the construction volume of work	Phase 4 & 5 During these stages the client builds an understanding of what exactly the training and apprentices are about and can develop an option for continuation
Select suitable transfer options for existing trainees and apprentices from the project	Phase 8 Options are selected when the training and apprentices are about to finish
Transfer trainees and apprentices from the finishing construction project to new projects	Phase 9 because this occurs once the construction is completed in the current project
Monitor the transfer of trainees and apprentices from the finishing construction project to new projects	Gate 4 because monitoring and taking control actions occurs when the training and apprentices start in phases 7 & 8
Take control action to ensure the transfer of trainees and apprentices from the finishing construction project to new projects	

HAS Model E Activities' Classification According to the GDCPP Project Phases

HAS Model F Activities	Phase Choice Justification
Determine capabilities needed to deliver the SV activities of the system (project)	All phases because this is a continuous subsystem and requires continuous application because skills vary from one stage to another
Determine the skills needed to deliver CPTM activities of the system (Project)	
Match individuals to perform suitable activities	
Identify the client and supply chain individuals who can perform the SV activities of the system (project)	
Monitor matching skills needed with personnel capabilities	Each gate to monitor if, at every stage, the right personnel have been identified and matched with the suitable tasks
Take control action to ensure skills are matched with personnel capabilities	

HAS Model F Activities' Classification According to the GDCPP Project Phases

HAS Model G Activities	Phase Choice Justification
Define the limitations (constraints) which go through the whole system	All phases because as it is part of the systems building. It should be a continuous activity across all durations
Assess the impact levels constraints have on all sub-systems	
Choose the reaction needed for each controller	
Notify each controller	
Monitor the conformance of each activity with the constraints	All gates because both activities are continuous to make sure all activities are working within the limitations of the constraints
Take control action to ensure all activities conform with the defined constraints	

HAS Model G Activities' Classification According to the GDCPP Project Phases

HAS Model H Activities	Phase Choice Justification
Identify public client long-term goals for the local population	Phase 0 & 1 because this takes place during building the business case
Choose the client's long-term goals can be achieved through the construction project to serve their local population	Phase 2 & 3 because the project would have clear enough data to choose roughly what can be delivered through it
Decide how long-term goals can be assessed or measured throughout the project	Phase 3 because the finalisation linking long term objectives to the project occurs in the substantive feasibility study
Decide on what are the performance targets needed to achieve the long-term goals of the client	
Monitor the achievement of the long-term goals throughout the project	All gates because both are continuous activities to ensure that all activities achieve the long-term objectives of the client (system's owner)
Take control action to ensure long term goals of the local authority is achieved through out the project	

HAS Model H Activities' Classification According to the GDCPP Project Phases

Appendix B

Summary of Case Study One Themes

This case study was a successful choice in terms of the emerging themes coming from the analysis of the interview transcripts. The themes which have emerged through the analysis have indicated a deep understanding of what SV is and how it was executed on a high value construction project. There were four main themes, together with their subthemes, which have emerged through this case as shown below.

1. The construction client was the stakeholder who initiated SV delivery. The client's willingness and perseverance were what drove the project and lead the rest of the stakeholders to deliver SV and ensure that SV was embedded in the project's core objectives. In the client organisation, it was found that the following factors would influence the performance of the client and the final outcomes of the SV being pursued:
 - a. The methods and strengths of the communication which started from the pre-procurement phase and continued through the procurement and construction phases was how the client started pursuing SV delivery. They started with PQQs and ITTs (which include SV specific questions and procurement routes) which ensured that the client could add SV bespoke questions and thus implement influential communications. The client's communications with their business units provided information about the local context (social needs and local market capabilities) to build up the requirements of SV to suit their need and match their capabilities.
 - b. The client's level of experience had an impact on SV outcomes. Because the construction experience offered the flexibility to adjust the client's requirements to suit their needs and achieve their objectives. In little occasions the client experience hindered SV delivery because established ideas within the organisation about how projects can be delivered by the organisation was, to a limit, resistant to new ideas or outcomes.
 - c. The fact that the client was a secondary construction client, delivering a diverse range of projects for different sectors and services across large geographical areas, improved their approach towards SV. The different types of projects undertaken by the same client equipped their procurement teams with the knowledge needed to deliver SV from any type of projects, if they had SV as an objective. Social, technical and economic infrastructures can have different requirements and impacts on local communities which means that the SV delivered will not be the same. In addition, repeat clients have the experience needed to deliver SV through their construction projects because of the different economic and local circumstances that they deal with during their delivery.
 - d. The presence of a SV champion within the client organisation added political influence in the organisation because they had an impact on the decisions to plan, manage and deliver SV. Because SV is ill-defined and is not easily defined an individual with experience, knowledge and position in an organisation can make a positive impact on the delivery and the outcomes. The existence of the client's SV champion triggered the main contractors to find individuals from their organisations to play an equal role and to ensure that SV is an important item on their organisations' agenda.

- e. Lowest cost culture was partially embedded in the client organisation because of the historic practices of the public sector which tended to choose the lowest bid for their projects despite the extra outcomes available from bids which might cost more. However, the lowest cost culture had a smaller impact on the project whereby the client used more than cost to review the project bids. Lowest cost culture had a minor influence on the project with a few supply chain bids being rejected for being higher than the others.
2. For a construction project, as mentioned in the literature review, there are a diverse range of actors which impact upon the performance of the project and its success. The accumulation of these factors and their attributes acts as variables which change from one project to another and will upon impact its outcome. Based on the literature these factors are divided into macro and micro factors where the first impact upon the externality of the project and the latter impact upon the project intrinsically. The factors are reviewed below:
- a. The strategic procurement route (macro) is the choice made by the client organisation to procure a certain product or service. In this project the client chose a framework agreement to procure through; to support, firstly, the relationship they had with their main contractor (which was collaborative partnering) in order to be able to deliver SV in a non-mandatory fashion because of the flexibility it needs. The client had had experience of construction framework work, thus that they would enable them to have suitable relationships. Secondly, the client chose the type of contract suitable for the project wherein the contract suited the nature of it being English heritage and the contract needed to accommodate changes to design.
 - b. Project size (value) had an impact on the SV outcomes of the project because of the amount of investment which offered work to a diverse range of trades which could support SV outcomes. The high value of the project offered a high volume of work to different local suppliers and employees. Furthermore, the value of the project created political pressure on the client organisation to deliver as many SV outcomes as possible because of public scrutiny. The part of the project which created the opportunity for SV delivery was the construction and labour-intensive part of the project and not the equipment cost whereby the percentage of the construction cost to the equipment cost can reduce SV outcomes.
 - c. The project's type being a one-off had an impact on SV outcomes where the lack of work continuity, a programme of projects offered, limited the duration of the impact and discarded some outcome selections. However, because of the high value of the project it had a similar flow of work as a small programme of work. There was a conflict between the interviewees' views on how difficult it was to manage SV through a programme of work. One view expressed was that managing head-to-tail activities can be challenging and might not be as easy as managing a single project. Other views expressed was that it was difficult but manageable.
 - d. The design and construction characteristics of the project were among the factors affecting SV outcomes. It was found that breaking down design and construction characteristics provided the client and the main contractor with the knowledge that was appropriate for their SV outcomes which provided an opportunity to up-skill the suppliers and their workforce. Hence, design investigations improved the client's ability to make design decisions as early as possible to deliver SV outcomes.

- e. The main contractor's responses to the SV demands of the client was a factor which emerged through the analysis and was not obtained from the literature review. It was felt that the experienced main contractor responded to clients by providing the right personnel who delivered the aspirations of the client. The main contractor also investigated local markets and the local needs of their clients. In addition, they transferred the collaborative culture further down the supply chain and provided support for their suppliers to make sure that they take part in the delivery of SV outcomes. They supported suppliers in recruitment procedures, through up-skilling and educating them about the different options they can deliver, and through understanding how the suppliers function so that they can collaborate accordingly. Finally, main contractors investigate, early on, the design and construction characteristics to make sure they understand what is on offer for local communities.
 - f. The supply chain members' response was a factor which influenced the SV success in the project. Some suppliers investigated the local markets to make sure they engaged with local communities both commercially and socially. They investigated their packages and how they could produce SV opportunities. Nevertheless, most of SV outcomes they produce had an economic implication wherein hiring and buying locally benefitted them economically, and using apprenticeships was utilised as low-cost labour (which the suppliers can use to reduce the skills' gap at a lower cost). Through the analysis, it was identified that only level 2 within the supply chain can deliver SV and if the lower tiers can deliver SV this is the exception and not the norm. Lower tiers can add to SV outcomes through being economically active in the community (without any specific measures they can add).
 - g. The economic context and the local context impacted the project directly whereby the local circumstances (such as local market capabilities and local community requirements) impacted SV delivery. The existence of local window contractors allowed Heritage to hire them locally. In addition, the geographical area was low populated changed what the term local was describing. In addition, because the project was procured during the pinnacle of the economic crisis the client was under pressure to justify their decisions and produce as much SV as possible.
 - h. The time of engagement (micro) with SV is critical for the success of SV delivery whereby early engagement with the project through planning, pre-procurement and procuring the project would allow clients and main contractors to properly investigate all the factors mentioned earlier to deliver optimum results.
3. SV characteristics themselves affect the quality of what is being delivered by clients through their projects. Through the analysis three themes emerged concerning SV outcomes that would impact upon the delivery of SV through construction projects as follows:
 - a. SV presents three different challenges that face construction delivery teams who aim at including SV in their projects. Firstly, there are the difficulties which they face when defining what outcomes they will deliver; this requires an in-depth investigation of the local context, the project's nature and the client's profile. Secondly, there is the gap between high level objectives and operational level tools whereby the lack of existence of tool and techniques to assist in delivering the outcomes operationally can be challenging. Finally, measuring SV is always a challenge due to the lack of resources or planning on how it should be measured.

- b. The nature of the SV outcomes delivered through the project was economic in nature wherein the two major outcomes of the project were apprenticeships and local buying. Mentioned throughout the interviews, the effort made to deliver both outcomes were enormous and focused, and the clients and the main contractor's strategies focused upon these outcomes. Both required management and investigations to local areas and to deliver sustainable apprentices and both these could be measured through the supply chain. Another outcome were the site visits to local schools which were numerous. However, it was difficult to measure the impact of these outcomes through the project.
- c. It was noticed that the learning curve of SV delivery improved for the client, the main contractor and the suppliers who took part in the project. Methods and approaches to managing SV were developed by these parties to take their work forward. The main contractor won work on the back of the SV success of this project. The suppliers used the experience of individuals on the project to bid for further work which included SV as an objective. Also, the framework success in pushing SV delivery through their vehicle enhanced its confidence and experience regarding SV delivery afterwards.

Case Study One HAS Modes' Activity Classification

HAS Model A Activities	Phase Justification
Determine capabilities needed to deliver the SV activities of the system (Project)	All phases because this is a continuous subsystem and requires continuous application because skills vary from one stage to another
Determine the skills needed to deliver CPTM activities of the system (Project)	
Identify the client and supply chain individuals who can perform the SV activities of the system (Project)	
Match individuals to perform suitable activities.	
Monitor matching skills needed with personnel capabilities	Each Gate to monitor at every stage if the right personnel have been identified and matched with the suitable tasks
Take Control Action to ensure skills are matched with personnel capabilities	

HAS Model A Activities' Classification According to the GDCPP Project Phases

HAS Model B Activities	Phase Justification
Identify SV policies of the client organisation which might be used in the project	(Phase One, Two & Three) After identifying the personnel who will deliver SV within the client teams the level of SV understanding within them should be assessed.
Investigate the level of SV understanding (knowledge) within the client team	(Phases Zero) To identify how individuals can be upskilled with SV knowledge a review of what social policies the council engages in is needed.
Develop options to expand the SV knowledge and understanding of the actors	(Phase Zero, One & Two) A generic approach can be developed immediately after reviewing local authorities' socioeconomic policies and strategies.
Choose the most suitable options to improve SV knowledge of the actors	(Phase Two & Three) These options should be developed through the phases of choosing the individuals who will be responsible for delivering SV and construction
Implement the method to improve SV knowledge of the actors	(Phase Three & Four) A choice is made to implement one of the options produced in the early stage to educate client teams about SV
Improve the knowledge of SV within the client staff members	(Phase Four) At this stage client teams assigned to the project should have a sufficient level of knowledge about SV and how to go about delivering it

Monitor the improvement of client teams' SV experience & knowledge	(Hard gate 2) Within the hard gate data should be collected on whether the level of SV experience within the clients has improved or not before moving to later stages
Take Control Action to ensure client teams SV experience & knowledge are improved	(Hard gate 2) Non-satisfactory results of the model are dealt with within hard gate 2 before moving forward with the activities.

HAS Model B Activities' Classification According to the GDCPP Project Phases

HAS Model C Activities	Phase Justification
Break-down the project's construction & design packages of the project	(Phase Four) Decisions about construction and design options should begin as soon as conceptual design starts. At this point design decisions can easily be influenced
Assess the ability of local markets to deliver construction and design packages based on Model F	(Phase Four) With the development of the design, trades will be identified based on the conceptual design phase.
Identify trades required to deliver the construction & design activities of the project	(Phase Four & Five) From the L 1 subsystem the project team can identify the local market capabilities (available local construction suppliers)
Calculate the amount of construction & design to be delivered locally	(Phase Five) During the conceptual design phase the percentages of local suppliers delivering construction activities can be calculated.
Provide alternative options for construction & design choices to enhance local suppliers' volumes of work	(Phase Five) Within the full conceptual design alternative design and construction options are developed to make sure the client has design choices to improve local suppliers' participation and their opportunity of winning work.
Make design & construction changes to maximize local suppliers' volumes of work	(Phase Five) Changes can be made within this phase to maximize local suppliers' volumes of work through the project through the procurement phase
Monitor the maximization of local suppliers' volumes of work from the project.	(Hard gate 2) Within the hard gate data should be collected on whether the level of local suppliers working within the project is satisfactory or not before moving to later stages
Take Control Action to ensure local suppliers' volumes of work from the projects is maximized	(Hard Gate 2) Control actions about design are taken before finishing the procurement exercises.

HAS Model C Activities' classification according to the GDCPP phases

HAS Model D Activities	Phase Justification
Revise construction projects' gateway process of the client.	(Phase Zero) a client should know the volume of future work before deciding on their procurement approach
Review the client's social & economic regeneration plans for their local communities	(Phase Zero & one) a gateway process is to decide a project is viable or not for investment which should be developed as early as the demonstration and conception of needs.
Develop a SV base line requirement for construction projects acceptance	(Phase Zero & One) knowledge about social and regeneration policies should available for client team members allowing them to use this knowledge to provide specific targets. Early as building the needs this knowledge should be presented.
Include the SV base line requirements in construction projects gateway processes	(Phase One & Two) simultaneous to the gateway development is inclusion of the generic approach for SV delivery within the pipeline of projects.
Monitor the inclusion of SV baseline requirements in the construction gateway approval process	(Hard gate 1) Evidence should be displayed on the existence of SV requirements and interface (gate) within the gateway process

Take control action to ensure the inclusion of SV baseline requirements in the construction gateway process	(Hard Gate 1) Actions are taken to ensure that evidence are displayed on the extensive of SV requirements and interface within the gateway process.
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HAS Model D Activities Classification According to the GDCPP Phases.

HAS Model E Activities	Phase Justification
Review business units' data about local needs and capabilities from Model F	(Phase Three) Reviewing the business unit data should occur before starting the design
Review the SV baseline requirements from the gateway process Model D	(Phase Three) Reviewing the SV base line requirements should occur before starting the design and after the base line requirements are developed
Develop options of SV deliverables and outcomes	(Phase Four) SV options should be available before the design phase starts to assist the design stages in the selection of SV outcomes
Choose SV deliverables which suit the local context info collected by business units	(Phase Four) Before proceeding to detailed design phases options for SV, operational outcomes with specific targets should be deduced from SV strategic goals.
Classify the chosen SV deliverables to be created because of the construction and non-construction activities following Model C	(Phase Five) A selection of the specific targets of SV should be made before moving to analyzing design and construction components
Monitor the classification of SV deliverables into to be created based on construction & non-construction activities	(Hard Gate 2) Monitoring the SV classification should occur before the procurement phase starts to make sure SV options can be included in the procurement phase
Take control action to ensure SV deliverables are classified based on construction & non-construction activities	(Hard Gate 2) Actions to ensure the system delivers what it is planned should be achieved before moving to the procurement phase

HAS Model E Activities' classification According to GDCPP Project Phases

HAS Model F Activities	Phase Choice Justification
Collect data about local community benefits & needs from business units responsible for them	(Phase One) Data about local community needs should be collected early in the project to include this input in the feasibility studies
Collect data about local businesses & suppliers' engagement from business units responsible for them	(Phase One) Identifying the capabilities of the local market and local suppliers should be developed prior to the development of the feasibility study
Link both types pf information to construction context of the local authority	(Phase Two) Linking local data to the construction context is undertaken during the conception of the project needs
Develop a database about the local context to serve the local context in their objectives to deliver SV through their construction projects.	(Phase Three) Having a full picture about the local context should be developed before starting the design phase to steer design towards enhancing the local community.
Monitor the development of the database about the local context to serve the local context in their objectives to deliver SV	(Hard Gate 1) Before moving forward to the conceptual design developing a database about local context should take place
Take control action to ensure a database about the local context to serve the local context in their objectives to deliver SV is developed	(Hard Gate 1) Actions to implement the database about the local context are undertaken before moving the design stages.

HAS Model F Activities' classification According to GDCPP Project Phases

HAS Model G Activities	Phase Choice Justification
Define SV outcomes delivered through the project which can be transferred beyond the project from Model H	(Phase Eight) Through the construction phase the outcomes will be defined, delivered and measured and the ones which can be transferred can be identified
Investigate the client pipeline of construction projects within a short duration of the project's end.	(Phase Seven) To allow enough time to investigate the client's pipeline of work and make sure that transitioning outcomes can be undertaken properly this activity should start just before the construction starts.

Choose a project(s) which can sustain SV outcomes transferred from this project	(Phase Eight) Before the end of the construction phase, a decision should have been made defining another project to accommodate SV outcomes from the current project.
Transfer SV outcomes to different projects to extend the impact and achieve long term goals	(Phase Nine) SV outcomes will have transferred from the construction phase to the next project.
Monitor the transfer of SV outcomes from one project to another	(Hard Gate 4) Monitoring the transfer should occur at gate four
Take control action to ensure SV outcomes are transferred beyond the initial project	(Hard Gate 4) Before moving into operations, actions should be taken to ensure all SV outcomes which can be transferred are already transferred.

HAS Model G Activities' Classification According to GDCPP Project Phases

HAS Model H Activities	Phase Choice Justification
Identify construction project attributes (type, value, procurement choice)	(Phase Five) Before finalizing the design and starting procurement the project attributes should be identified.
Identify the culture needed within the relationship between the client & the supply chain	(Phase Five & Six) Through the final design decisions and identifying the project attributes the culture needed to support the legal relationship between the client and the supply chain will have been defined.
Develop procurement options to accommodate the identified culture needed in the relationship between the client & the supply chain	(Phase Six) Procurement options before the decision to be defined which can support the culture identified earlier.
Review the SV deliverables' classification from Model E	(Phase Five) Within the phase SV deliverables defined in system P2 is investigated and matched with the project.
Develop procurement options to deliver the SV deliverables identified earlier within Model E after reviewing them	(Phase Six) Procurement options which match SV outcomes and can support them should be developed during procurement phase
Select a procurement route that would align the culture needed to manage the relationship between the client and the supply chain while delivering SV deliverables	(Phase Six) Matching both the requirements of SV and an optimum relationship between the clients and the supply chain are performed in procurement stage.
Monitor the classification of SV deliverables into to be created based on construction & non-construction activities	(Hard Gate 3) Monitoring these activities does not extend beyond phase six
Take control action to ensure SV deliverables are classified based on construction & non-construction activities	(Hard Gate 3) Control actions are undertaken within the 3rd gate before moving to construction

HAS Model H Activities Classification According to the GDCPP.

HAS Model I Activities	Phase Justification
Identify local authority's strategic long-term goals for the local population	(Phase Zero & One) Early identification of the long-term goals of the system owners eases the process of identifying the project objectives
Choose how the Client's long term goals can be achieved through the construction project to serve their local population	(Phase One & Two) Eliminate the long term goals of the local authority which are not suitable for construction activities as early as possible
Decide on what are the performance targets to achieve the long-term goals of the client	(Phase Two) During the procurement phases decisions about measuring the long term goals of the local authorities through the project implementation should be undertaken.
Decide how the long-term goals can be assessed or measured throughout the project	(Phase Two) During the procurement phase there is a need to decide as to how to measure the achievement of the client's long-term goals
Monitor the achievement of the long-term goals throughout the project	

Take control action to ensure that the long term goals of the local authority are achieved throughout the project	All gates because monitoring and controlling are continuous activities to ensure that all the activities achieve the long-term objectives of the client (the system's owner)
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HAS Model I Activities Classification According to the GDCPP Project Phases

HAS Model J Activities	Phase Choice Justification
Identify the project constraints from the key stakeholders of the construction project (client, main contractor, supply chains)	All phases because identifying constraints is part of the systems' building therefore it should be a continuous activity across all stages
Define the strength of the impact that constraints have on SV delivery	
Assess the limitation of the constraints on the project's SV delivery	
Collect information about the constraints' impacts on the construction activities	
Choose the reaction needed for the system controller	
Monitor the conformance of each activity with the constraints	All gates because monitoring and controlling activities are continuous to make sure all the activities are working within the limitations of the constraints
Take control action to ensure each activity of the system conforms with the different constraints	

HAS Model J Activities Classification According to the GDCPP Project Phases

Appendix C

Summary of Case Study Two Themes

To conclude the thematic analysis of the case study there were multiple themes which emerged from the interviews, some of them were previously identified and some of them were uncovered through the data added by the interviewees. Themes and subthemes under a hierarchy were developed throughout previous sections as a result to the analysis of the case data. The three main themes and their subthemes are summarised below.

1. The first theme discussed the client organisation attributes and behaviours as an organisation which impacted SV outcomes from procuring a series of projects as a single bundle. Clients are the organisations which lead the process of planning and delivering SV outcomes and the level of success depends on the client organisation leadership and engagement. In this case the client organisation was found to have some attributes which led to the success of the SV requirements which are summarised below:
 - a. The client level of awareness and knowledge about what types of projects they have how these projects are funded and what decisions are suitable for local needs and can utilise the projects properly. The client understood clearly what was they had in hand in terms of the construction projects, understood what these projects had to offer and knew the decisions they needed to make to utilise such projects. They knew their responsibilities as a local authority towards their community and decided to aggregate these projects into a bundle in the procurement project to gain bargaining power because of their understanding of the market;
 - b. The organisation always knew that as a local authority they are responsible for local communities and they should try and solve these communities' social and economic problems through utilising all their projects in such a process. As a local authority the organisation had to be OJEU compliant to avoid any litigation, scrutiny and/or public accountability. In addition, as a local client they used their local employment and skills business unit to gain and build an understanding of the local supply markets and how can they be fully engaged. Accordingly, they were able to lead their main contractors on all their school projects and guide them towards satisfactory results;
 - c. The client organisation was led by an individual who acted as an organisational champion where he took it up on himself to adopt SV delivery as a personal objective which provided support to the organisational team and business units in pursuing SV in innovative approaches. The champion's engagement cemented the intentions of the client organisation in their relations with their suppliers where the suppliers at all levels were convinced that SV delivery was a very important item in the agenda of the organisation and its leader;
 - d. The client organisation has been through unsuccessful projects and missed opportunities in terms of SV delivery which worked as a catalyst in developing the client's knowledge and experience in procuring and delivering SV outcomes. These lessons and experiences were carried forward and used in the current program of projects which allowed the client to improve aspects of the procurement and delivery of such program to suit their needs;
2. Furthermore, the project as a member of a construction program had a number of attributes which impacted the SV outcomes and how they progressed and developed. Seven factors impacted the SV delivery from a project management point of view which are summarised below:

- a. The aggregation of demand approach which was to bundle a number of projects of the same nature, belonged to the same sector and serves the same local community was among the factors that affected SV delivery because it changed from a single project outcomes to a full program outcomes. This resulted in more bargaining power and a sounder pipeline of work which contractors and suppliers and depended on to delivery SV. The consistency of projects and guaranteed workflow allowed the client to negotiate better outcomes with their suppliers and tempted suppliers to fully comply with client requirements and satisfy them.
- b. Strategic procurement decisions were made to support the client requirements where collaboration and trust were identified as suitable relations between the client organisation and the supply chains. Hence, construction frameworks were chosen because they provide trust and collaboration between clients and supply chains. Also, they are OJEU compliant so provides an opportunity to clients to have bespoke requirements for the SV because they do not need to go through traditional procurement again. Finally, frameworks allowed the main contractors to collaborate and deliver collective SV outcomes with different clients and multiple projects.
- c. The design and construction attributes of the projects impacted the delivery of SV because; firstly, these projects did not have specialist contractors' requirements which meant that suppliers could be found easily nationwide which increases local purchase levels. Secondly, experienced main contractors were able to identify what are the local trades available and changed large design elements to utilise the local market and improve the local economic multiplier. It requires an experienced and willing main contractor to explore design options to achieve their objectives.
- d. Local context knowledge is based on the client's business units and the main contractors experience with the local areas and similar projects. The client builds knowledge about local community needs, employment opportunities, client capabilities and local contexts which assists in delivering SV suitability and requirements. In addition, information about local markets and their capabilities which is developed by main contractors from previous projects allows the client to build a full picture about what they can or cannot deliver in SV.
- e. Main contractors' response was among the factors which influenced the performance of the project and the success of the SV delivery. The level of engagement in SV impacted the outcome and performance where in this case the main contractors fully engaged with the requirements of the client. Main contractors were able to link the client requirements to the market because of the knowledge they have about market dynamics. In addition, they collaborated with other contractors to provide a more consistent approach towards SV delivery. Furthermore, they approached suppliers with an educator approach where they helped suppliers understand the importance of SV delivery to the client organisation and assisted them with their share of SV delivery.
- f. Supply chain response to SV requirement was important because it was realised that tier 2 suppliers are important to the direct delivery of SV outcomes. Suppliers' engagement was due to their business models where local employment and local purchase was economically viable. By default, suppliers deliver SV outcomes to local communities by existing there and dealing with their surroundings market. Programs of construction provided suppliers, large and small ones, with consistency which encouraged them to respond properly to the requirements of the main contractors in SV delivery. Large contractors have their own internal processes and policies to deliver SV outcomes whereas, smaller suppliers needed assistance from main contractors to deliver.

- g. Early engagement of the client with the process of delivering SV allows enough time for investigating local market context, local community benefits, suppliers available for the work packages and the possible design choices. Procurement selection requires time for investigating the suitability of the procurement route to the projects and the outcomes planned to be delivered.
3. Finally, themes about the SV outcomes themselves emerged through the analysis process of the interview transcripts. Sub themes under the heading of SV outcomes characteristics are summarised below.
 - a. The definition of SV was considered the most cumbersome task of the process because of the involvement of a diverse range of stakeholders, the resources and time they require and the suitability of the projects being procured with the local context. Defining SV depends on the knowledge and experience of the client organisation as the leader of the delivery process.
 - b. SV was managed as part of a series of connected projects which allowed outcomes such as apprentices, local purchasing and training programs to exceed the original duration of a single project. Dealing with the head to tail activities of multiple projects was difficult but doable but requires a knowledgeable client, an experienced engaged main contractor and active suppliers. Work packages were broken down into details to determine what trades are needed and when and how can these trades transition apprentices and suppliers between projects with ease without long durations of transition.
 - c. Measuring the impact of SV allowed the client organisation to justify decisions they made to aggregate demand on the projects and to procure through construction frameworks.
 - d. Types of SV outcomes within this case were of socioeconomic nature which was delivered locally for the population. The client being a local authority had influence on the outcomes being mostly of socioeconomic nature to serve the local community; for example, apprenticeship programs, local purchasing schemes, local employment and recruitment. In addition, the construction frameworks chosen as procurement routes had local benefits built in their SV delivery mechanisms where they build local knowledge of the areas they work within. The regional framework had extensive experience in delivering SV outcomes in the Northwest region which was one of the reasons it was chosen by the client.
 - e. SV legacy was among the objectives of the client and the main contractors where the client aimed at leaving an impact which would exceed the original duration of the projects being procured in terms of socioeconomic improvement for the local community. Also, main contractors aimed at leaving a legacy which would allow them to win more work through with more clients who would have the same approach to their projects.

In conclusion, the schools' individual projects were quite successful in the planning and delivery of SV outcomes. The outcomes were suitable to the client needs and its duties being a local authority responsible for local community's prosperity and improvement they led the process of planning and delivering SV which are focused on localism. The choices of the client in procurement, contracting, funding and management of the projects were to support localism.

Case Study Two HAS Modes' Activity Classification

HAS Model A Activities	Phase Justification
Determine capabilities needed to deliver the SV activities of the system (project)	

Determine capabilities needed to deliver the SV activities of the system (project).	All phases because this is a continuous subsystem and requires continuous application because skills vary from one stage to another
Identify the client and supply chain individuals who can perform the SV activities of the system (project)	
Match individuals to perform suitable activities.	
Monitor matching skills needed with personnel capabilities	Each gate to monitor if, at every stage, the right personnel have been identified and matched with the suitable tasks
Take control action to ensure skills are matched with personnel capabilities	

HAS Model A Activities Classification According to the GDCPP.

HAS Model B Activities	Phase Justification
Survey available local construction market suppliers for their capacity	(Phases One & Two) Building knowledge about local market should come as early as possible during the feasibility outline
Identify design characteristics (requirements) for local construction projects (programme) based on sector	(Phases Three) Based on the feasibility study the design characteristics of the construction projects in a programme will be identified on a generic level
Match local suppliers available with local construction projects design requirements	(Phase Four) During the outline design stages the local suppliers can be matched with the design requirements of the construction projects.
Identify SV outcomes needed to improve the local community's socioeconomic circumstances	(Phase Three) In the substantive feasibility study the SV outcomes can be decided
Define SV outcomes suitable for the available projects	(Phase Four) Defining the suitable SV outcomes should feed into the framework stage
Develop a framework with minimum SV requirements for construction projects locally	(Phase Five) Before going into the procurement phase the framework of minimum SV requirements should be ready
Monitor the improvement of client teams' SV experience & knowledge	(Hard gate 2) Within the hard gate data should be collected on whether a framework with minimum SV outcomes is developed or not
Take control action to ensure client teams' SV experience & knowledge are improved	(Hard gate 2) The non-satisfactory results of the model are dealt with within hard gate 2 before moving forward with the procurement activities.

HAS Model B Activities Classification According to the GDCPP.

HAS Model C Activities	Phase Justification
Review SV policies of the local authority during the business case building	(Phase Zero & One) Policies of local authorities should be reviewed during the demonstration of need and conception of need
Investigate local supply market context (suppliers' capabilities) as a follow up to Model B	(Phase Two) Follow up from Model B local supplier survey local supply market investigation should be undertaken in outline feasibility study
Identify SV outcomes suitable for procured construction projects	(Phase Four) In outline design similar to Model B SV outcomes needs to be defined
Select the procurement route suitable for the SV required	(Phase Five) Procurement route selection should before the procurement stage
Add SV requirements to the procurement methods and documents	(Phase Six) SV requirements are added during the procurement stage
Monitor the addition of SV requirements to the procurement methods and documents	(Hard gate 3) The activities should be monitored for compliance before progressing beyond the procurement stage
Take control action to ensure SV requirements are added to the procurement methods and documents	(Hard Gate 3) Actions should be taken to ensure SV requirements are added to procurement before completing the procurement stage

HAS Model C Activities Classification According to the GDCPP.

HAS Model D Activities	Phase Justification
Define generic tasks needed to implement SV in the pre-procurement stage	(Each phase before the gate) Tasks needed to implement SV are spread across all the stages of the project
Identify the individuals responsible for task implementation	(Phase Zero, One & Two) Individuals responsible for tracking SV implementation tasks should be identified as early as possible starting with the demonstration of need
Create a tracker with the tasks required for SV implementation	(Phase Two & Three) A fully functional tracker should be developed
Track the application of SV implementation tasks	Across all phases the SV activities should be tracked
Monitor the tracking of SV implementation tasks	(All Gates) Monitoring the tracker should go through all the gates and taking action should be applied at all gates.
Take control action to ensure SV implementation tasks are tracked	

HAS Model D Activities Classification According to the GDCPP.

HAS Model E Activities	Phase Justification
Identify projects from different clients which can be aggregated into one pipeline of work	(Phase Zero & One) in the phase of building the conception of need and the demonstration of need other projects which can be bundled are identified.
Decide on financial resources needed to provide support for planning the aggregation	(Phase Two) Before the substantive feasibility and outline financial authority the resources needed to manage the aggregation are calculated
Recruit staff members to manage the aggregated projects as a construction programme	(Phase Two) Before agreeing on the financial outcomes the staff who will manage the aggregation of projects should be recruited
Consolidate construction projects into a construction programme or work	(Phase Three) During the substantive feasibility and outline financial authority the projects are consolidated as a bundle
Plan SV outcomes' delivery according to the aggregated construction projects	(Phase Four) Similar to models B & C defining the SV outcomes for the consolidated projects occurs in the outline design state
Monitor the planning of SV outcomes' delivery according to the aggregated construction projects	(Hard Gate 2) Monitoring and taking actions the planning of SV outcomes within the bundled projects are done before the procurement is finalized
Take control action to ensure SV outcomes delivery is planned according to the aggregated construction projects	

HAS Model E Activities Classification According to the GDCPP.

HAS Model F Activities	Phase Choice Justification
Obtain main contractors' SV impact measurement reports for construction projects	(Phase Eight) The impact of SV outcomes delivered is measured during the construction activities
Identify the impact of SV delivered by the tier 2 suppliers separately	(Phase Eight) The impact of the SV delivery is identified during the construction activities
Articulate SV impact report by tier 2 suppliers to suit their business model	(Phase Eight) Articulating the impact of SV
Integrate SV impact measurement reports in marketing and bidding activities of tier 2 suppliers	(Phase Nine) Integrating SV measurement reports are done after the construction phase is finished
Monitor the integration of SV impact measurement reports in marketing and bidding activities of tier 2 suppliers	(Hard Gate 4) Monitoring and taking actions to ensure the SV outcomes are used in the future bids for the tier 2 suppliers is done after the reporting is completed in the construction stage
Take control action to ensure SV impact measurement reports are integrated in tier 2 suppliers' bidding and marketing activities	

HAS Model F Activities Classification According to the GDCPP.

HAS Model G Activities	Phase Choice Justification
Identify construction activities which are suitable for educational utilization	(Phase Three) As in model B the introduction of construction activities which can contribute to SV is at the substantive feasibility study and the outline financial authority level

Identify challenged groups within the local community who can benefit from construction involvement	(Phase Two & Three) Local authorities can utilize their business units in the outline and substantive feasibility studies to identify challenged groups
Inform main contractors and tier 2 suppliers about the activities which can be delivered by certain groups in the local community	(Phase Five) During the bid dialogue with main contractors and suppliers local authorities can inform them about the inclusion of challenged groups
Recruit individuals from challenged groups in the local community to work on construction programme	(Phase Six) Recruiting the individuals should be during the procurement phase
Monitor the recruitment of individuals from challenged groups in the local community to work on construction programme	(Hard Gate 3) Monitoring and taking control actions to ensure the recruitment of challenged groups should be undertaken before procurement is done
Take control action to ensure individuals from challenged groups are recruited in the local community to work on construction programme	

HAS Model G Activities Classification According to the GDCPP.

HAS Model H Activities	Phase Justification
Identify local authority's strategic long-term goals for the local communities they work with	(Phase Zero & One) Early identification of the long-term goals of the system owners ease the process of identifying project objectives
Choose the local authority's long-term goals that can be achieved through the construction project to serve their local communities	(Phase One & Two) Eliminate long-term goals of the local authority which are not suitable for construction activities as early as possible
Decide on what are the performance targets to achieve the long-term goals of the client	(Phase Two) During procurement phases decisions about measuring the long-term goals of the local authorities through the project's implementation should be done.
Decide how long-term goals can be assessed or measured throughout the project	(Phase Two) During the procurement phase there is a need to decide on how to measure the achievement of the client's long-term goals
Monitor the achievement of the long-term goals throughout the project	All gates because both are continuous activities to ensure that all activities achieve the long-term objectives of the client (system's owner)
Take control action to ensure long-term goals of the local authority are achieved throughout the project	

HAS Model H Activities Classification According to the GDCPP.

HAS Model I Activities	Phase Choice Justification
Identify the project constraints from the key stakeholders of the construction project (client, main contractors, supply chains)	All phases because as it is part of the systems' building. It should be a continuous activity across all durations
Define the strength that the impact constraints have on SV delivery	
Assess the limitations of the constraints on the project's SV delivery	
Collect information about the constraints' impacts on the construction activities	
Choose the reaction needed for the system controller	
Monitor the conformance of each activity with the constraints	All gates because both activities are continuous to make sure all activities are working within the limitations of the constraints

HAS Model I Activities Classification According to the GDCPP.

Appendix D

Summary of Case Study Three Themes

From the analysis of the responses in the interviews three main themes emerged concerning the client's characteristics as the organisation leading the social value delivery. The first theme was the client organisation business, how they deliver SV and how they communicated their SV requirements to other stakeholders. The second theme was the factors affecting the project's performance and how these were utilised or underutilised and how this impacted upon the delivery of social value outcomes. Finally, there was the theme of the characteristics of the social value outcomes delivered through the project by the client; these characteristics are led by both the client and the project's attributes. Multiple sub-themes emerged from each main theme throughout the analysis of the responses in the interviews which, firstly, explained how and why the client reacted in the manner that they did towards social value decision making. Secondly, there were subthemes which defined factors which affected the project's performance in social value management and delivery. Lastly, subthemes about social value characteristics identified how it was being perceived by the client organisation, how it progressed and was improved over time by the client organisation.

When the researcher selected this project he was aware that the client (as a private developer) and the funding sources (coming from both private and public money) had an impact on how the social value was delivered. In addition, as the project incorporated a specialist engineering design and the local context chosen was vague, choosing this project as a case study was a successful decision as the project fitted in with the overall research whereby the emerging themes helped develop a clear understanding of how social value delivery, and how the decision making on social value, was perceived by the private client. They utilised different criteria to those utilised in the other case studies. The three main themes that emerged from the interviews were as follows:

1. The client was the most influential party when it came to be leading social value delivery. The client's experience and business usually drove social value through the diverse range of projects they developed. Despite sharing funding with another public body, the client organisation maintained its an acceptable drive towards social value creation. The following attributes/themes influenced the performance and decision making of the client towards the social value being pursued:
 - a. The client's communication methods and quality were seen to be influential over the delivery of social value from the construction activities, whereby the message being delivered to the supply chains would impact upon their adoption of social value. However, the client in this project did not ensure that the social value requirements were delivered beyond the main contractor which limited any social value outcomes downstream in the supply chain. The communication by the main contractor provided outcomes to fulfil the minimum requirements which were developed by the client and the two public funding bodies but did not exceed these requirements. The lack of public pressure to deliver social value outcomes through the construction activities impacted upon the quality of the communication with the different stakeholders.
 - b. The client's organisation type, being a private organisation, had an impact on the decisions made about how and why social value was being delivered through the project. The client was a private developer with multiple business ventures across the North West region of the UK which, by default, created long term

socioeconomic outcomes for the local communities where the client was located, thus making them unfamiliar with social value outcomes linked merely to the short duration of the construction process. Being a private client provided them with the freedom to follow procurement routes to suit their needs thus they could, if they wished, follow similar procurement routes to those undertaken by public clients. Despite this because of the funding structure and the public money utilised within this project the client had to follow the traditional procurement route. Finally, with as this was a development project the image of the client organisation was important to them which is why they tended to report on social value outcomes they create through their projects and business.

- c. The commercial market in which the client works has an impact on the social value delivery decisions and choices, whereby the organisation's image within the local communities was felt to be very important within their business success. The client has always been interested in creating a legacy of socioeconomic benefits for the local communities in order to maintain a positive image; this benefits their commercial side as well. Within the portfolio of commercial projects which the client owns and manages in the North West England region they needed this transportation infrastructure project to improve the connectivity between different ventures. In addition, the client understands and engages with social value which suits their long-term existence in a certain area whereby they make their presence felt by the community in order to improve their image. However, this project was not the usual type of project which this client delivers resulting in them missing out on some of the social value delivery opportunities offered by the project (such as the lack of communication with supply chain members beyond the main contractor). This understanding mirrors what public clients experience when they procure their projects as they have public pressure and short term construction periods to deal with.
 - d. Finally, the client organisation hired a CSR company to capture and assess what they achieved in terms of socioeconomic benefits for both long and short-term projects. The consultant produced a monthly report to display what they had achieved.
2. There are factors which affect the performance of social value delivery and decisions which are influenced by the characteristics of the construction project. These factors, which change from one project to another, interact with the project and dictate the social value delivery process and outcomes. These factors impacted upon the project extrinsically and intrinsically. These factors are as follows:
 - a. The funding structure and sources for the project had an impact on social value outcomes and delivery as the public money provided for part funding had social and environmental mandatory requirements. This project included public money in the form of a regeneration grant and a loan from a local authority which had the requirement of several apprenticeships attached to the project and which dictated the procurement route which, because of the public money involved, had to be EU compliant. Despite this private funding the client already had a strategy of creating long term social value outcomes as part of the business model of the client organisation.
 - b. Construction and design characteristics had an impact on the social value outcomes within the local context such as hiring the workforce or the suppliers. A limited number of main contractors had the experience to take on such a project due to its

unique engineering features. As a result, the client saw that an innovative approach towards the project was better than having to deskill the project through traditional construction methods. Such an approach meant there was a limit to the work that could be placed with organisations within the region because there were no local main contractors with the experience to deliver the project. However, the main contractor could and did not break down the design elements into packages which could be procured locally to reduce the carbon footprint, the transportation time and the fees.

- c. The lack of a local community or area that would be directly linked as beneficiaries of the project was an element which hindered the social value delivery for the project. The project was procured and constructed by the client (who works across different regions of the UK) away from any heavily populated areas, without any communities linked to it. The project had a low profile due to its location, the private funding and the benefits being shared between different organisations. It did not have the same context as that of a public project which often gains much political pressure to create as much social value as possible. The project was developed as a connecting tool between different commercial ventures for the client hence the project was on its own; it was a commercial entity linked to a local area and community whereas public projects are procured by local authorities with ties to the local communities which they serve. In addition, the project served multiple local authorities and end users from different areas to ease the traffic congestion without a focus on any single area or community. This had reduced the demands made by certain communities because they had no sense of ownership of the project.
- d. The procurement route chosen by the client had a direct influence on the overall social value outcomes of the project. The project's procurement choice (being a private procured project with partial public funding) was a traditional two stage procurement process through a PQQ and ITT. Because there was partial public funding there were compulsory social value demands attached to the procurement. The social outcomes were achieved by the main contractor; no demand to achieve any social value outcomes was passed to the suppliers contractually. Also, this project was a one-off project and was not linked to other projects which limited the ability to include social value in the procurement process.
- e. The main contractor's responses to the client's social value requirements were among the factors impacting upon the successful delivery of social value where they would have the innovation and capabilities to achieve it. The main contractor can could lead in designing and delivering processes which would achieve the clients' aspirations. Nevertheless, the main contractor in this case did not deliver this role because they lacked experience. They did not have KPIs for SV, to deliver social value through the project. The contractor achieved the minimum social value requirements laid down by the client and focused on how to report them rather than on providing innovation in the delivery. In addition, the main contractor did not play a proactive role in encouraging the suppliers to deliver social value outcomes and relied on the suppliers' own initiatives and processes.
- f. The supply chain response was among the factors which affected the delivery of the social value delivery processes which is triggered by the communication between the main contractor and their supply chain members. Through the formal communication (within the contract) or the informal communication (through the

collaboration) suppliers understand what the client wants and work on delivering it. However, in this case, the communication between the main contractor and the suppliers about social value was almost non-existent because the contracts did not include any social value requirements requested by the main contractor and even through informal word of mouth social value was not mentioned to the suppliers. This was because the client did not ensure that their message about social value was extended beyond the main contractor to include the suppliers despite the suppliers being willing to deliver any form of social value if it had been requested by their employers.

- g. The duration offered by the client to the contractor to engage with a social value investigation before initiating the construction was seen by the main contractor as being very important to the success of social value delivery. With the main contractor being the first connection between the client's social value requirements and its delivery they needed more time to plan and investigate the project and the local context before starting construction. The main contractor mentioned that, because they did not have enough time before construction, there were missed opportunities to improve the social value outcomes to which the client contributed.
3. Social value characteristics result from the approach adopted by clients and a project's characteristics influence the decision-making process with interactions from the different key stakeholders of the project. Four sub-themes emerged about social value outcomes representing the impacts of both the approach and the characteristics. These are:
 - a. Social value outcomes' time frame depends on how long the benefits are designed to last which, for this client, were by default long term exceeding the initial construction period. The client's business model was based on commercial ventures which are developed to create long term revenue in different areas where the wellbeing and prospering of the local communities would improve the revenues the client aims to achieve. Hence, the social value outcomes are designed to exceed the initial construction duration which is significantly shorter than that which private clients usually deliver. Public clients who construct projects to deliver services and then hand them over to a managing organisation after completion only have the construction period to deliver social value outcomes through construction activities.
 - b. The outcomes delivered were socioeconomic and non-socioeconomic in nature where both were considered as social value outcomes by the client. Creating jobs long and short term and employing local suppliers and workforce were compulsory requirements stipulated by the public money lenders whereby they required several apprentices and local expenditure to be delivered through the project (a similar outcome to what many public projects aspire to produce). Additionally, the non-socioeconomic outcomes such as improvement of traffic flow, environmental engagement and lower gas emissions were also considered as social value outcomes within the project, designed to improve local communities' overall wellbeing and life quality. The client builds a context around the benefits of non-socioeconomic outcomes for the local communities to justify the decisions made to invest in these kinds of outcomes. The challenge with non-socioeconomic outcomes is that they are very difficult to quantify. However, in this project they were delivered to compensate for the limited opportunities offered by the project for local employment or expenditure.

- c. Public and private clients measure and assess social value outcomes to justify their decisions regarding any investments made to deliver social value. Public clients justify the expenditure they make against public accountability and scrutiny and private clients display how much they are engaged with the communities they work with and what they create for them. Private clients place a stress on collecting, reporting and displaying data for the long term benefits they create, without a specific emphasis on construction independently whereas public organisations will mostly have a methodology behind compounding data to defend their decisions against public scrutiny. For this project, the client collected the data from the main contractors about apprentices and local expenditure without a methodology on to what extent they were successful whereby they focused only on displaying what was achieved without benchmarking it against any KPIs. The suppliers were not involved in the reporting or in sending any data because such communication regarding social value was discontinued beyond the main contractor level.
- d. The social value progress and learning curve improved for all the parties involved in the delivery of the project varying from ranging through the? clients, the main contractor, the suppliers and the lending organisations. The client would, in future adopt the approaches they had learnt from main contractors; the public lending organisation had improved experience of delivering a variety of projects for different end users and had improved their engagement with the local communities. The suppliers are now being asked to deliver social value outcomes in most of the projects they are hired to construct. The social value experience within the private and public organisations has improved significantly recently and the overall performance and delivery in this project was successful.

HAS Models Activities' Classification according to the GDCPP

HAS Model A Activities	Phase Justification
Determine capabilities needed to deliver the social value activities of the system (project)	All phases because this is a continuous subsystem and requires continuous application because skills vary from one stage to another
Determine the skills needed to deliver CPTM activities of the system (Project)	
Identify the client and the supply chain individuals who can perform the SV activities of the system (project)	
Match individuals to perform suitable activities.	
Monitor matching skills needed with personnel capabilities	Each Gate to monitor if, at every stage, the right personnel has been identified and matched with the suitable tasks
Take control action to ensure skills are matched with personnel capabilities	

HAS Model A Activities Classification According to the GDCPP.

HAS Model B Activities	Phase Justification
Identify all development projects of the client being constructed of medium to long term duration	(Phase Zero & One) Development projects are identified as early as possible to plan the strategy effectively
Define departments needed in social value outcomes' delivery for development projects	(Phases Zero & One) Defining the departments which are needed to participate in social value outcomes' delivery during the outline feasibility study
Develop a database (list) about the construction projects starting dates, their locations and durations	(Phase One & Two) Developing data about construction projects should be considered during the conception of needs and the outline feasibility stages

Define the role each department plays in delivering social value within construction projects.	(Phase One & Two) During the conception of need the organisation should know which departments are going to participate in social value delivery
Inform departments about their roles in the construction projects procured by the client organisation to deliver social value and link the projects together	(Phase Three) Departments are informed about the role they play in social value delivery during the finalization of the feasibility study.
Monitor departments informed about their roles in construction projects procured by the client organisation to deliver social value and link the projects together	(Hard gate 1) Data about the activities are collected and actions are taken before moving to stage four to ensure departments are informed about their role in social value delivery
Take control action to ensure departments informed about their roles in construction projects procured by the client organisation to deliver social value and link the projects together	

HAS Model B Activities Classification According to the GDCPP.

HAS Model C Activities	Phase Justification
Identify ongoing construction projects for the private developer	(Phase Three) Identifying the construction projects that are progressing happens during the detailed feasibility study
Identify supply chain members who are working on these construction projects	(Phase Six) During the procurement phase the identities of the suppliers working on the project are going to be known and can be clearly investigated
Collect data from these different suppliers on social value delivery on previous projects	(Phase Six) During that procurement stage the client is offered enough time to communicate with the supply chain members and identify their practices and their social value previous experiences
Select social value delivery experiences suitable for the developer's construction projects	(Phase Six) During the procurement of the construction projects the client organisation can choose which experiences are suitable for their projects and then apply them to their teams for future projects.
Educate departments and staff about social value delivery in construction projects	(Phase Seven & Eight) After the selection of the appropriate knowledge during the information production the client can choose, with the assistance of the suppliers, to educate their staff about their social value experiences.
Monitor educating departments and staff about social value delivery in construction projects	(Hard Gate Three) The project should not move to the operations stage or be handed over unless the client has already selected the lessons learned from the suppliers and has educated their staff and departments about them.
Take control action to ensure departments and staff are educated about social value delivery in construction projects	

HAS Model C Activities Classification According to the GDCPP.

HAS Model D Activities	Phase Justification
List local areas where the client is active in construction projects	(Phase Zero) A client should know the volume of future work before deciding on their procurement approach.
Identify local communities and businesses from the local areas the client is active in.	(Phase Zero & One) A gateway process is to decide whether a project is viable or not for investment; this should be developed as early as the demonstration and conception of needs.
Investigate local communities' social value needs through meeting with local agencies suitable for construction activities	(Phase Zero & One) Knowledge about social and regeneration policies should be available for client team members allowing them to use this knowledge to provide specific targets. This knowledge should be presented just as early as the stage where the needs are built up.
Align social value outcomes with the available construction projects procured by the client organisation	(Phase Two & Three) Simultaneous to the gateway development is defining the generic approach for social value delivery within the pipeline of projects.
Monitor aligning social value outcomes with the available construction projects procured by the client organisation	(Hard Gate 1) Evidence should be displayed on the existence of SV requirements and the interface (gate) within the gateway process. Actions should be taken to ensure that social value
Take control action to ensure social value outcomes are aligned with the available	

construction projects procured by the client organisation	requirements are included in the gateway process before moving to design.
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HAS Model D Activities Classification According to the GDCPP.

HAS Model E Activities	Phase Justification
Define the social value outcomes suitable for the construction activities (short-term) of the development	(Phase Two & Three) Social value outcomes suitable for the construction activities are developed during the detailed feasibility study to ensure they are in all aspects of the project i.e. design, procurement and construction
Revise main contractor's social value and sustainability strategy for construction projects	(Phase Four) During the outline design the developer has a rough idea about which main contractors can deliver the social value outcomes identified earlier
List main contractor's social value delivery capabilities in previous projects with different clients that are suitable for the project	(Phase Five) The client can review the different main contractors and their ability to deliver the project's social value outcomes and compare between them before entering into the procurement stage
Match the social value outcomes with the main contractor's social value delivery capabilities	(Phase Five & Six) During the procurement and finalized design the client can match between what the main contractor has to offer and the client's requirements in terms of social value outcomes.
Monitor the matching of social value outcomes with the main contractor's social value delivery capabilities	(Hard gate 3) Before finalizing procurement the activities for the subsystem should be executed and actions should be taken to ensure the objectives of the subsystem is achieved.
Take control action to ensure the social value outcomes are matched with the main contractor's social value delivery capabilities	

HAS Model E Activities Classification According to the GDCPP.

HAS Model F Activities	Phase Choice Justification
Collect data about local market suppliers' capabilities from local authorities.	(Phase One & Two) Client's data about the local markets are collected during the conception of need and the feasibility outline to be included as early as possible in planning the project.
Breakdown project's construction and design packages	(Phase Four & Five) During the conceptual and detailed design actors can break down the components of the design and change it.
Select which packages are suitable for the generic and specialist suppliers	(Phase Five) During the detailed design, packages suitable for local suppliers can be chosen
Invite local suppliers to bid for suitable work packages	(Phase Six) During the procurement stage specific suppliers can be targeted and invited to bid.
Increase local market suppliers' engagement (involvement) in the construction projects	(Phase Six) The increase in local market suppliers' involvement (volume of work) is achieved during the procurement stage.
Monitor the increase of local market suppliers' engagement (involvement) in the construction projects	(Hard Gate 2) Before proceeding to production information and construction the activities to achieve the increase in the local suppliers' volume of work are monitored and actions are taken to correct the system.
Take control action to ensure the increase of local market suppliers' engagement (involvement) in the construction projects.	

HAS Model F Activities Classification According to the GDCPP.

HAS Model I Activities	Phase Justification
Identify private developer's shareholders strategic long-term goals for the local communities they work with	(Phase Zero & One) Early identification of the long-term goals of the system owners eases the process of identifying the project's objectives
Choose the developer's long-term goals that can be achieved through the construction project to serve their local communities	(Phase One & Two) Eliminating the long term goals of the local authority which are not suitable for construction activities as early as possible

Decide on what are the performance targets to achieve the long-term goals of the client	(Phase Two) During the procurement phases decisions about measuring the long term goals of the local authorities through the project's implementation should be undertaken
Decide how long-term goals can be assessed or measured throughout the project	(Phase Two) During the procurement phase there is a need to decide on how to measure the achievement of the client's long-term goals
Monitor the achievement of the long-term goals throughout the project	All gates because both are continuous activities to ensure that all activities achieve the long-term objectives of the client (system's owner)
Take control action to ensure long term goals of the local authority is achieved through out the project	

HAS Model G Activities Classification According to the GDCPP.

HAS Model J Activities	Phase Choice Justification
Identify the project constraints from the key stakeholders within the construction project (client, main contractor, supply chains)	All phases because, as it is part of the systems' building, it should be a continuous activity across all durations
Define the strength of the impact that the constraints have on social value delivery	
Assess the limitation of the constraints on the project's social value delivery	
Collect information about the constraints' impacts upon the construction activities	
Choose the reaction needed for the system controller	
Monitor the conformance of each activity with the constraints	All gates because both activities are continuous to make sure all activities are working within the limitations of the constraints
Take control action to ensure each activity of the system conforms with the different constraints	

HAS Model H Activities Classification According to the GDCPP.

Appendix E

Case Four HAS Model Activities' classification according to the GDCPP

HAS Model A Activities	Phase Justification
Determine capabilities needed to deliver the social value activities of the system (project)	All phases because this is a continuous subsystem and requires continuous application because skills vary from one stage to another
Determine capabilities needed to deliver the social value activities of the system (project).	
Identify the client and the supply chain individuals who can perform the SV activities of the system (project)	
Match individuals to perform suitable activities.	
Monitor matching skills needed with personnel capabilities	Each gate to monitor if at every stage the right personnel have been identified and matched with the suitable tasks
Take control action to ensure skills are matched with personnel capabilities	

HAS Model A Activities' Classification According to the GDCPP

HAS Model B Activities	Phase Justification
Review social value policies of the local authority in line with the development project	(Phase Zero & One) During the demonstration and conception of need social value policies should be reviewed
Provide resources to recruit suitable personnel for social value management	(Phases Two) Outline feasibility stage should include the budget for recruiting social value personnel
Recruit individuals with social value experience from a construction perspective	(Phase Two) Social value personnel should be recruited as early as possible
Investigate social value needs and issues by the recruited individuals in line with the local context	(Phase Two & Three) Investigating social value requirements should take place before finalizing the feasibility study
Develop clear social value requirements (Ask) for the developer in the pre-procurement stage of the development project	(Phase Three) Before finalizing the feasibility study a clear understanding of social value requirements should be developed by the client
Monitor the development of clear social value requirements (Ask) for the developer in the pre-procurement stage of the project	(Hard Gate 1) Monitoring and taking control action to ensure that social value requirements are developed before moving forward to design stages.
Ensure the development of clear social value requirements (Ask) for the developer in the pre-procurement stage of the project	

HAS Model B Activities' Classification According to the GDCPP

HAS Model C Activities	Phase Justification
Analyse design and construction elements of the project	(Phase Four) Analysing design and construction elements of the project should take place during the outline design stage
Collect data about available suppliers in the local market	(Phase Two & Three) Data about the local market should be available before the designs starts and enough time should be taken for the investigation.
Apply changes to design elements to suit local suppliers	(Phase Four) Changes to the design elements should occur before the design is finalized
Define packages which can be delivered by local suppliers	(Phase Five) During the detailed design stage packages which are suitable for local suppliers are identified
Invite suitable local suppliers to bid for packages on the project	(Phase Six) During the procurement stage local suppliers will be invited to bid for work on the development job

Hire local suppliers by the main contractor to deliver social value outcomes for the development project	(Phase Six) Hiring local suppliers to work on the development project should occur during the procurement stage
Monitor hiring local suppliers to deliver social value outcomes for the development project by the main contractor	(Hard Gate Three) Monitoring and taking control actions to ensure local suppliers are hired to work on the development project should occur before the procurement stage is finalized
Take control action to ensure hiring local suppliers to deliver social value outcomes for the development project by the main contractor	

HAS Model C Activities' Classification According to the GDCPP

HAS Model D Activities	Phase Justification
Review social value programmes and outcomes for tier 2 suppliers within the local authority's policies and previous experiences	(Phase One & Two) Local authorities can review social value policies and have a basic idea about social value outcomes which can be delivered by the tier 2 suppliers
Identify local construction suppliers under the jurisdiction of the local authority	(Phase Three) Data about the local market should be available before the designs starts and there should be enough time for this investigation.
Identify social value options suitable for tier 2 suppliers working on the project (apprentices/employment programmes)	(Phase Zero & One) During the demonstration and conception of need, local authorities can identify the social value options suitable for being delivered by tier 2 suppliers
Organise meetings between the client's social value staff and the local suppliers selected to work on the project	(Phase Six) During the procurement when there is certainty about the tier 2 suppliers the client can organise meetings to guide and mentor the suppliers
Guide tier 2 suppliers through the social value options to select suitable deliverables	(Phase Six) During the procurement before the construction starts the client guides tier 2 suppliers to select social value outputs.
Monitor the guidance of tier 2 suppliers through the social value options to select suitable deliverables	(Hard Gate 3) Monitoring and taking control actions to ensure that the tier 2 suppliers are guided towards undertaking their role optimally should take place before moving to the construction phase to ensure they go into construction phase knowing what to do
Take control action to ensure the guidance of tier 2 suppliers through the social value options to select suitable deliverables	

HAS Model D Activities' Classification According to the GDCPP

HAS Model E Activities	Phase Justification
Identify the tier 2 contractors to work on the development project	(Phase Three) Data about the local market should be available before the design starts and enough time should be allowed for the investigation.
Identify individuals with experience of working with smaller suppliers and delivering social value	(Phase Five) During the detailed design stage? suppliers can identify individuals which they can recruit for social value implementation
Encourage the tier 2 suppliers to recruit experienced individuals as part of their project teams	(Phase Six) During the procurement stage the client can encourage the tier 2 suppliers to hire personnel with social value experience
Improve social value performance of the tier 2 suppliers through the addition of the experienced personnel	(Phase Six, Seven & Eight) The improvement of the social value performance of the tier 2 suppliers occurs during the stages of procurement, production information and construction
Monitor the improvement of the social value performance of the tier 2 suppliers through the addition of the experienced personnel	(Hard gate 4) Through the construction stage the performance of the tier 2 suppliers regarding social value can be monitored and improved
Take control action to ensure the improvement of the social value performance of the tier 2 suppliers through the addition of the experienced personnel	

HAS Model E Activities' Classification According to the GDCPP

HAS Model I Activities	Phase Justification
Identify the local authority's strategic long-term goals for the local communities they work with	(Phase Zero & One) Early identification of the long-term goals of the system owners eases the process of identifying the project objectives

Choose the local authority's long-term goals that can be achieved through the construction project to serve their local communities	(Phase One & Two) Eliminate as early as possible the long term goals of the local authority which are not suitable for the construction activities
Decide on what are the performance targets to achieve the long-term goals of the client	(Phase Two) During the procurement phases decisions about measuring the long-term goals of the local authorities through the project's implementation should be done.
Decide how the long-term goals can be assessed or measured throughout the project	(Phase Two) During the procurement phase there is a need to decide on how to measure the achievement of client's long-term goals
Monitor the achievement of the long-term goals throughout the project	All gates because both are continuous activities to ensure that all the activities achieve the long-term objectives of the client (system's owner)
Take control action to ensure the long-term goals of the local authority are achieved throughout the project	

HAS Model F Activities' Classification According to the GDCPP

HAS Model J Activities	Phase Choice Justification
Identify the project constraints from the key stakeholders in the construction project (the client, the main contractor, the supply chain)	All phases because as it is part of the systems' building it should be a continuous activity across all durations
Define the strength of the impact the constraints have on social value delivery	
Assess the limitation of the constraints on the project's social value delivery	
Collect information about the constraints' impacts upon the construction activities	
Choose the reaction needed for the system controller	All gates because both activities are continuous to make sure all the activities are working within the limitations of the constraints
Monitor the conformance of each activity with the constraints	

HAS Model G Activities' Classification According to the GDCPP

Appendix F

The SVAZ improvement process in construction projects consists of:

1. Identifying stakeholders which have influence on SV delivery to ensure that the improvement provided by the SVAZ has consensus between them and that they understand their roles in carrying out this improvement. These Stakeholders should include:
 - A. Client organisation's procurement and capital programmes and skills and employment business units;
 - B. Funding organisations and their business units if the
 - C. Agencies and/or business units with the knowledge about the local suppliers, local needs and social challenges;
 - D. The main contractor's procurement and contract management and community engagement departments;
 - E. Tier two suppliers from the local markets and external ones who work with the main contractor.
2. Use face to face interviews and focus groups lead by the client organisation and involves individuals from the key stakeholders identified in the previous stage to build an understanding about the project and identify its macro and micro factors that would influence SV delivery;
3. Develop a Rich Picture which represent the project situation, the relations between the stakeholders and the project and allow these stakeholders to identify the challenges they will need to overcome to deliver optimal SV outcomes;
4. Use the focus groups to reveal how the challenges of SV delivery (Defined in the Rich Picture) can be solved through developing a single CPTM which consists of multiple HAS Models. The focus groups work will develop detailed texts on how these challenges are dealt with and the texts are analysed using STAM approach to create the CATWOE elements of each subsystem;
5. The CPTM and its HAS models are then discussed among the stakeholders to improve how the HAS models' activities are detailed and identify the individuals responsible for carrying out each activity;
6. The activities generated from the HAS models are classified and mapped against the GDCPP phases between phases zero to nine based on the understanding of the users to develop a SVAZ;
7. The client organisation assigns the responsibility of managing the SVAZ to team from both the client organisation and the main contractor through the different phases of the project.

Research Outputs- Conference and Journal Papers

Since the beginning of this PhD research, the researcher engaged in multiple publications (conference and Journal papers) which helped in shaping the research outcomes. This section will present the abstracts of these two publications and their references.

Paper One

Awuzie, B. O., Farag, F. & McDermott, P. (2014). Understanding the Impact of Public Sector Clients on Successful Socio-Economic Policy Implementation: A Case of the United Kingdom. In Proceedings of the 16th congress of the World Organisation of System and Cybernetics: 15-17 of October 2014 University of Ibague (pp. 486-496). Bogota: The University of Ibague.

Abstract

Various socio-economic policies have been initiated across the globe by successive governments. The apparent increment in the number of these policies has been attributed to such governments' increasing desire to drive economic growth through them, particularly as they affect provision of economic infrastructure. The relationship between effective socioeconomic policy implementation and efficient public procurement has since been established by extant studies.

Accordingly, attempts have been made within the United Kingdom to use public procurement to drive the implementation of such policies. In the Northwest region of England, for instance, such attempts led to the establishment of the Northwest Construction Hub (NWCH). Serving as a construction framework, this hub has recorded various degrees of success as an implementer of socio-economic policies through the procurement of construction works for local authorities. Of particular concern to this study is the use of construction-related public procurement to develop local apprenticeships and competitive local supply chains. However, it has been observed that the variance in the degrees of success recorded has been traced to features associated with the manner in which the individual public-sector clients have engaged with the ****. This study seeks to develop an understanding of those peculiar values or attributes of the public-sector client responsible for such inconsistency through a viable systems perspective.

Adopting a Viable Systems Model (VSM) enabled methodology, the Viable Infrastructure Delivery Systems Model (VIDM), availed this qualitative multi-case study with a suitable methodology for understanding the relationship between the client local authority and other parties through an inter-organizational and multi-layered structure; a perceived shortcoming of implementation research. Two capital projects procured through the NWCH were adopted as case studies. Data was collected through a series of face to face semi-structured interviews and a review of project and policy documents. The collected data was subsequently analysed qualitatively with the aid of the NVivo software. It is expected that the findings of this study will generate further discourse on the potency of extant methodology adopted herein, in studying the wider area of policy implementation.

Paper Two

Farag, F. & McDermott, P. (2015). Using Soft System Methodology to Approach Social Value Outcomes in Public Procurement. In Proceedings of the CIB Going north for sustainability: Leveraging knowledge and innovation for sustainable construction and development: 23 - 25

November 2015 London South Bank University (pp. 50-59), London: London South Bank University.

Abstract

Social value in recent years have been attracting increased attention from public clients where policy documents encouraged clients to maximize their additional outcomes when procuring goods and services. However, social value studies in recent times show how there are problems accompanying its delivery with publicly procured projects, where confusion of definition among public procurers, the lack of methodologies and mechanics to calculate and implement the delivery processes and the absence of assessment and measurement methods caused hindrance to social value inclusion. This paper discusses how using Soft Systems Methodology (SSM) would improve the delivery of social value outcomes for publicly procured projects. Since social value as a subject is considered to be of vague it cannot be approached in a similar way of well-defined construction deliverables, therefore SSM is adopted to accommodate its characteristics. The inability to define social value outcomes can be dealt with using the culture stream of inquiry specifically rich picture building which includes multiple stakeholder perspectives of reality.

On the other hand, lacking methodologies and mechanisms to implement social value can be improved through logic-based inquiry stream and Human Activity System modelling where stakeholders can have their input conceptualized into models which is compared to the real world situation to find most suitable answers. Measurement and assessment of social value can improve through improving the definition and the implementation processes. This research does not claim to be empirical and could be seen as an explorative nature research of qualitative observational opinion. With the acknowledgment of this research limitation it can be viewed as a grounding base to a suitable research methodology approach used to explore a new subject such which is social value.

Paper Three

Farag, F, McDermott, P and Huelin, C-A (2016) The Development of an Activity Zone Conceptual Framework to Improve Social Value Implementation in Construction Projects Using Human Activity Systems. In: P W Chan and C J Neilson (Eds.) *Proceedings of the 32nd Annual ARCOM Conference*, 5-7 September 2016, Manchester, UK, Association of Researchers in Construction Management, Vol 2,1023-1032.

Abstract

Current research shows the sporadic success of recent policy and legislative documents which encourage public clients to utilise their expenditure strategically to produce social outcomes in addition to traditional outcomes. Analysing social value outcomes revealed a lack of methodologies or approaches that enabled procurers to deliver social outcomes consistently. Social delivery was excluded from core business objectives and approached as a philanthropic activity. A lack of understanding and inconsistency in the social delivery journey in public projects has led this research to consider the New Product Development concept which underpinned the Generic Design and Construction Process Protocol development. Using the GDCPP can enhance social value delivery by transforming it into a construction project task, similar to that of design and production management, with its activities being task driven and undertaken by cross-functional teams across all phases. An analytical review of the GDCPP advantages and disadvantages revealed that the soft nature of social value was not aligned with the hard system thinking behind the GDCPP. To overcome this issue, a soft system methodology was introduced to overcome this challenge through using Human Activity

System models. This study attempts to deliver a conceptual framework/a new activity zone to organise social value delivery processes across all phases of construction projects.

Paper Four

Awuzie, B., Farag, F. & McDermott, P. (2018) Achieving Social Value Through Construction Frameworks: The Effect of Client Attributes, *Proceedings of the Institution of Civil Engineers - Management, Procurement and Law*. 171(1). 25-31.

Abstract

The UK Public Services (Social Value) Act, 2012 mandates public-sector construction clients to prioritise the resolution of social challenges through procurement. Accordingly, clients are increasingly committing to delivering on social value through capital expenditure. Construction frameworks have been identified as a means of delivering social value, hence their relatively sudden attractiveness. Yet evidence suggests clients are experiencing varied social-value benefits from projects procured through frameworks. The study reported in this paper sought to ascertain the causes of such inconsistency. It investigated the influence of client attributes on the ability of frameworks to deliver on social value. A qualitative case study design was adopted. Interactions between a regional framework and two clients was studied from a project procurement perspective using a viable infrastructure delivery model. Findings revealed that certain client attributes influenced a framework's ability to achieve optimal social value. Of significance was the ability of the client to express their latent values and their ability to appoint a project manager who will serve as a social value champion. Findings from this study will enlighten clients on their contributions towards successful social value implementation when engaging with a construction framework.

Ethical Approval

Academic Audit and Governance Committee

College of Science and Technology Research Ethics Panel
(CST)

University of
Salford
MANCHESTER

To Fady Farak (and Prof Peter Mc Dermott)
cc: Professor Hisham Elkadi, Head of School of SOBE
From Nathalie Audren Howarth, College Research Support Officer
Date 12/06/2015

MEMORANDUM

Subject: Approval of your Project by CST
Project Title: An Explorative study of Social Value outcome for publicly procured construction projects in the UK
REP Reference: CST 15/20

Following your responses to the Panel's queries, based on the information you provided, I can confirm that they have no objections on ethical grounds to your project.

If there are any changes to the project and/or its methodology, please inform the Panel as soon as possible.

Regards,



Nathalie Audren Howarth
College Research Support Officer

For enquiries please contact:
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College Research Support Officer
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Telephone: 0161 295 5278
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Interview Questions

Client Interview questions

1. Can you please state your position within the organisation?
2. How was Social Value defined in this project?
3. What were the processes and techniques used to manage SV delivery from inception to handing over?
4. How was SV assessed through the full duration of the project?
5. For this project did the project size have an impact on the SV delivery from definition to implementation and measurement?
6. What impact, if any, did the procurement route chosen for this project have on the SV created?
7. How did the characteristics of the client organisation being public/private, and business have on the SV delivery?
8. As a standalone/part of a program project what was the impact of the project type has on the SV delivery?
9. How was the information about SV from a local context transferred to the project requirements?
10. From your point of view if the project was re-procured how could the SV delivery have been improved?
11. Why do you think that this would have worked?
12. Who are the beneficiaries of this improved SV delivery?
13. When thinking about this improvement who do you think will carry out the actual work to deliver the activities needed for this improvement?
14. Who have the strategic responsibility and ownership of this SV improvement? Who are responsible for this improvement and its strategic decisions?
15. What are the boundaries of such improvement? On what conditions do this improvement depend?

Construction Framework Questions

1. Can you please state your position within the organisation?
2. What is your organisation's view on social value delivery and what are its different forms that your organisation is involved in delivering?
3. Why was your organisation approached by the client to deliver their project(s) what was the impact of your framework on the SV delivery?
4. How were the project(s) procured and what was the impact of this procurement route on the SV outcomes?
5. How did the characteristics of the local context have on the procurement choices and was it SV driven and how did the framework influence it?
6. How was the information about SV from a local context transferred to the project requirements?

7. Did the project size (value) make a difference when it came to SV outcomes and the overall project performance?
8. Did the sector have an impact on SV delivery success or failure within the project(s)?
9. How were the SV outcomes measured across the full duration of the program or the individual projects?
10. What were the tools and techniques used to manage SV delivery?
11. From your point of view what could have been done to further improve social value delivery in the project if it was redone?
12. Why do you think that this would be successful?
13. Who are the beneficiaries of this improvement?
14. When thinking about this improvement who do you think will carry out the actual work to deliver it?
15. Who have the strategic responsibility of delivering this social value improvement, suggestions and its decisions?
16. What are the boundaries of such improvement? On what conditions do this improvement depend?

Main Contractor Questions

1. Can you please state your position within the organisations and how it related to the project?
2. What level of consideration your organisation gave to SV when approaching your client and presenting your bid for the project(s)?
3. How were the SV outcomes selected through the project? Was it through answering the client's PQQ and ITT SV questions or was it a joint effort?
4. How was the information about the SV transfer from the local context to the project?
5. How did your organisations encourage supply chain members in delivering SV outcomes in the project?
6. Was the procurement route suitable for the delivery of the intended SV outcomes?
7. The project as a standalone or being part of a programme influence SV outcomes and the overall project performance for you as a main contractor?
8. Did the project(s) Value make a difference when attempting to deliver SV as a main contractor?
9. Can the sector change how you as a main contractor deal with type and size of SV outcomes being delivered?
10. How was SV measured and managed across the full length of the program being delivered?
11. From your point of view what could have been done to further improve social value delivery in the schools' program if it was redone?
12. Why do you think that this would be successful?
13. Who are the beneficiaries of this improvement?
14. When thinking about this improvement who do you think will carry out the actual work to deliver it?

15. Who have the strategic responsibility of delivering this social value improvement, suggestions and its decisions?
16. What are the boundaries of such improvement? On what conditions do this improvement depend?

Supply Chain Members Interview Questions

1. Please mention your position in your organisation and the project?
2. What is the vision of your organisation about SV delivery in its business mode?
3. How did the main contractors encourage your organisation to deliver SV? And how were the requirements made?
4. How did your organisation respond and approach SV requirements for the project?
5. Was local populations needs and local context investigated before deciding about SV outcomes to be delivered? Did the main contractor aid with that matter?
6. How further down the supply chain did you encourage you subcontractors to engage with SV delivery?
7. Are smaller suppliers in the supply chain capable of delivering SV or not?
8. How did the SV delivery experience of the client and the main contractor impact your SV delivery? Have you transferred this experience to future projects?
9. Does the project type, as a stand-alone or part of a programme have an impact on the SV outcomes delivered?
10. How did the project's value influence the in the delivery of SV within your organisation?
11. What role did the design characteristics play in the type of SV being chosen and delivered?
12. From your point of view what could have been done to further improve SV delivery in the project if it was redone?
13. Why do you think that this would be successful?
14. Who are the beneficiaries of this improvement?
15. Who can carry out the actual work when delivering this improvement?
16. Who have the strategic responsibility of delivering this social value improvement, suggestions and its decisions?
17. What are the boundaries of such improvement? On what conditions do this improvement depend?