

Understanding Trust & Confidence in Web Behaviour

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“If you want a guarantee, buy a toaster”

- *Clint Eastwood*

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ABSTRACT

Trust is recognised as the construct that makes societies function; not only this but it is understood to be the element that makes them successful, wealthier, healthier and wiser. A problem of the trust construct is that, despite its perceived importance on facilitating modern life, it remains a subject that lacks consensus on its definition.

Within literature, when the construct of trust is applied to the Web context, there is further confusion as the construct being referred to as trust in actual fact referring to the construct of confidence. This confusion led to the research in understanding trust and confidence in Web behaviour. In addition to researching the literature, the diary-study interview method was used to investigate into how the constructs of trust and confidence function on the Web. The diary study was designed to act as an observational research method, and in doing so would identify the *what* and *how* participants used the Web, with the follow-up interviews extracting the *why*.

When taking the core-concept understanding of trust (as developed within this thesis), it shows there to be a disparity between trust and its applicability to the Web. The study further supports this view, and from this emerges the key finding that Web interactions are facilitated and driven by confidence – not trust.

Confidence is the construct that drives the Web; what impacts and influences the behaviour of its users. Secondly, and more crucially, confidence is a construct that cannot be created on the Web per se. It is shaped by an individuals' worldview (optimistic / pessimistic), their disposition to risk, their cultural tendencies, their personalities, all of which are factors that are influenced by, and built up on, real-world experiences. Put simply, confidence is created through real-world experiences and it is the real-world attitude of an individual that is carried over to govern the nature of their Web interactions.

PAGE OF CONTENTS

Acknowledgments	i
Abstract	ii
Page of Contents.....	iii
List of Tables.....	viii
List of Figures.....	ix
Glossary of Terms	xii
1 Trust, Confidence and Web Behaviour	1
1.1 Background.....	1
1.2 Setting the Boundaries	2
1.2.1 World Wide Web.....	2
1.2.2 Trust	2
1.3 Web Trust.....	3
1.3.1 The Importance of the WeB.....	3
1.3.2 The Importance of Trust	4
1.3.3 The Importance of Trust on the Web	5
1.4 PhD Journey	6
1.5 Research Aims	7
1.6 Methodology.....	8
1.7 Contribution	9
1.8 The Thesis Overall.....	9
2 Internet Development.....	11
2.1 Internet and World Wide Web	11
2.2 Three Decades of Internet Development.....	12
2.3 The Nineties.....	13
2.3.1 World Wide Web.....	14
2.3.2 Removal of Restrictions	15
2.3.3 Domestication of IT	15
2.3.4 eCommerce.....	15
2.4 The Millenium Onwards.....	16
2.4.1 Dot-Com Bubble.....	17
2.4.2 High-Speed & Mobile Access.....	18
2.4.3 Digital Divide.....	19
2.4.4 Web 2.0	20

2.4.5	Social Networking	21
2.4.6	Summary of Web Development	23
2.5	Web Uses.....	23
2.5.1	Systematic Literature Review (SLR)	24
2.5.2	Taxonomy of Web Use	28
2.6	Status of Current Web Use.....	30
2.6.1	UK Web Use (Oxford Internet Surveys (OxIS))	30
2.6.2	US Web Use (PEW Internet & American Life Project)	32
2.6.3	Web Use in the Western Developed World.....	33
2.7	Summary.....	36
3	Trust	38
3.1	Issues in Defining Trust.....	38
3.1.1	Interdisciplinary Nature of Trust.....	39
3.1.2	Trust as a Social Construct	39
3.1.3	Reification.....	40
3.1.4	Summary	40
3.2	Understanding Trust.....	41
3.2.1	Researching Trust.....	42
3.2.2	Elements Related to Trust	46
3.2.3	Forms of Trust.....	56
3.2.4	Summary	61
3.3	The Process of Trust.....	62
3.3.1	Stage 1: Disposition to Trust.....	63
3.3.2	Stage 2: Perceived Trustworthiness	68
3.3.3	Stage 3: Judgement.....	72
3.4	Summarising Trust.....	74
3.5	Defining Trust	76
3.5.1	Castaldo et al. (2010).....	76
3.5.2	Adams (2005)	77
3.6	Trust Definition	78
4	Defining The Constructs	79
4.1	Constructs Defined.....	80
4.2	Trust & Confidence.....	80
4.2.1	The Differences	80
4.2.2	Summarising the Differences	82
4.3	Trust and Confidence Process.....	83
4.3.1	Process of Trust.....	83

4.3.2	Process of Confidence.....	84
4.4	Research Purpose.....	85
5	Research Methods	87
5.1	Research Defined.....	87
5.2	Research Structure	89
5.3	Adopted Framework	90
5.3.1	Epistemology.....	91
5.3.2	Theoretical Perspectives	93
5.3.3	Methodology	97
5.3.4	Method.....	100
5.4	Adopted Research Structure	102
5.5	Diary Study.....	102
5.5.1	Background.....	104
5.5.2	Approaches.....	105
5.5.3	Analysis of Method	110
5.5.4	Adopted Approach.....	116
5.5.5	Pilot Study.....	121
5.5.6	Post-Pilot Analysis.....	123
5.6	Implemented Diary Study.....	126
5.6.1	Commercially Available Diary	126
5.6.2	Research Specific Diary	127
5.7	Interview.....	130
5.7.1	Introduction	130
5.7.2	Stages of Questions.....	131
5.8	Summary of Method.....	138
5.8.1	Research Method.....	138
5.8.2	Diary Study.....	139
5.8.3	Follow-Up Interview.....	140
5.8.4	Ethical Considerations.....	141
5.8.5	Sampling and Participant Profiles.....	141
5.8.6	Research Specifics	143
6	Data Analysis	144
6.1	Core Approaches to Analysis.....	145
6.1.1	Quantitative Data Analysis.....	145
6.1.2	Qualitative Data Analysis	146
6.1.3	Common Data Analysis Stages	147
6.2	Adopted Approach.....	148

6.2.1	Oates Approach.....	149
6.2.2	Data Preparation.....	149
6.2.3	Diary Document.....	149
6.2.4	Voice Recorded Interview.....	150
6.2.5	Diary and Interview Documents.....	150
6.2.6	Computer Aided Analysis	151
6.2.7	Analysis Process / Coding.....	152
6.3	Analysing the Data.....	153
6.3.1	Adopted Approach.....	154
6.3.2	Implemented Process.....	155
6.4	Post-Analysis Research Data.....	156
6.4.1	Samples of Gathered Data.....	156
6.4.2	Vignettes of User Type and Web Use.....	159
6.4.3	Emergent Categories.....	164
6.5	Emergent Themes.....	178
7	Discussion	180
7.1	Research Approach.....	180
7.2	Trust, Confidence & Web	180
7.3	Research Findings	181
7.3.1	Preference for Usability.....	182
7.3.2	Experience and Optimism.....	183
7.3.3	Pessimism & Negative Expectations.....	184
7.3.4	Confidence / Assurances	184
7.3.5	Anxieties / Concerns	185
7.3.6	Conscious Trade-Off.....	186
7.3.7	Summary of Findings.....	187
7.4	The Relationship of Findings & Confidence.....	188
7.5	Findings & Literature	191
7.5.1	User Types.....	191
7.5.2	Confidence Facilitates the Web.....	192
7.5.3	The 'Six' Research Findings.....	199
7.6	Summary.....	202
8	Conclusion.....	203
8.1	Summary of the Research.....	203
8.2	Evaluation of the Research.....	204
8.3	Critique of the Research Methodology.....	207
8.4	Research Findings	208

8.4.1	Understanding Trust.....	208
8.4.2	Understanding Confidence	209
8.4.3	Web Behaviour	211
8.5	Future Research.....	212
8.6	Contribution to Research.....	212
9	References	217
	Appendix A.....	243
	Diary Study Documents	243
	Appendix B.....	244
	Participant Data Samples.....	244

LIST OF TABLES

Table 1: Systematic Literature Review Publications	28
Table 2: Taxonomy of Web Uses	30
Table 3: User Types (OxIS 2011 Study)	31
Table 4: Cultures of Web User (OxIS 2013 Study).....	32
Table 5: Understanding Trust.....	62
Table 6: Disposition to Trust	67
Table 7: Characteristics of Trustworthiness.....	69
Table 8: Stages of the Trust Process	75
Table 9: Trust & Confidence Characteristics.....	83
Table 10: Trust & Confidence Characteristics.....	134
Table 11: Participant Profiles	142
Table 12: First-Generation User (FGU Vignettes)	162
Table 13: Next-Generation User (NGU Vignettes)	163
Table 14: Findings from Study.....	188
Table 15: Relating Findings to Confidence.....	190
Table 16: Trust & Confidence Characteristics.....	197
Table 17: Study Findings and Contributions to the Field.....	201
Table 18: Evaluation of Research Goals	206
Table 19: Trust & Confidence Characteristics.....	210

LIST OF FIGURES

Figure 1: Systematic Literature Review Process	26
Figure 2: Disposition to Trust (Stage 1)	67
Figure 3: Perceived Trustworthiness (Stage 2)	71
Figure 4: Model of Trust Process	74
Figure 5: Model of Trust Process (with explanations)	75
Figure 6: Model of Trust (with explanation).....	83
Figure 7: Model of Confidence (with explanations).....	84
Figure 8: Research Methods Chapter Sections	87
Figure 9: Alternative Research Structures	89
Figure 10: Adopted Research Structure (Crotty, 1998).....	91
Figure 11: Typical Information Systems Methodological Approaches	98
Figure 12: Research Process Questions (Crotty, 1998).....	99
Figure 13: Analysis of Research Method.....	100
Figure 14: Adopted Research Structure (applied to the study).....	102
Figure 15: Intended Approach to Formulating Research Method.....	103
Figure 16: Actual Approach to Formulating Research Method	103
Figure 17: Types of Diary Study	105
Figure 18: Diary Study Terminology.....	106
Figure 19: Advantages to Diary Study (Lazar, Feng and Hochheiser, 2010).....	110
Figure 20: Diary Study Design Considerations (Generic).....	115
Figure 21: Diary Study Analysis (applied to the research)	118
Figure 22: Summary of Diary Design Considerations (adopted approach).....	120
Figure 23: Diary Study Process Diagram.....	120
Figure 24: Intended Pilot Study Path.....	121
Figure 25: Actual Pilot Study Path.....	122
Figure 26: Pilot Diary Study Document (physical version).....	122
Figure 27: Pilot Diary Study (electronic version)	123
Figure 28: Diary Study Redesign Considerations (Post-Pilot Analysis).....	125
Figure 29: Diary Study Redesign Process	126
Figure 30: Commercially Available Diary Document.....	127
Figure 31: Bespoke Diary Documents (implemented).....	128
Figure 32: Bespoke Diary Document(s) Contents.....	129
Figure 33: Follow-Up Interview Design Approach.....	130
Figure 34: Follow-Up Interview Question Phases.....	131

Figure 35: Follow-Up Interview Questions (Phase 1).....	132
Figure 36: Follow-Up Interview Questions (Phase 2).....	133
Figure 37: Phase 2 - Question Justifications and Analysis.....	136
Figure 38: Research Approach Diagram.....	139
Figure 39: Diary Study Analysis (implemented).....	140
Figure 40: Follow-Up Interview Analysis (implemented).....	141
Figure 41: Data Analysis Approach.....	144
Figure 42: Interview Document (Before Analysis).....	150
Figure 43: Interview Document (Post Analysis).....	150
Figure 44: Data Analysis Chapter Sections.....	153
Figure 45: Diary Study Example.....	154
Figure 46: Follow-Up Interview Process.....	154
Figure 47: Codes-To-Theory Analysis (Saldaña, 2009).....	155
Figure 48: Thematic Analysis Process (implemented).....	155
Figure 49: Participant 1 - Transcript Page 1 of 14.....	157
Figure 50: Participant 6 - Interview Transcript Page 1 of 24.....	158
Figure 51: Participant 16 - Interview Transcript Page 1 of 20.....	159
Figure 52: Web User Types (OxIS 2011 Study).....	160
Figure 53: Closed Questioning (Diary Study Example).....	164
Figure 54: Emergent Categories.....	164
Figure 55: Web Related Categories.....	165
Figure 56: Nature of Use / Routine (Coding Category).....	165
Figure 57: Mobile Device Use (Coding Category).....	166
Figure 58: Traditional Device Use (Coding Category).....	167
Figure 59: Web Use Related Categories (Summary).....	169
Figure 60: Trust, Confidence and Risk Related Categories.....	170
Figure 61: Anxiety / Concern (Coding Category).....	170
Figure 62: Assurance / Confidence (Coding Category).....	171
Figure 63: Conscious Trade-Off (Coding Category).....	172
Figure 64: Trust, Confidence and Risk Related Categories (Summary).....	173
Figure 65: Overlapping Categories.....	174
Figure 66: eCommerce (Coding Category).....	175
Figure 67: Online Banking (Coding Category).....	176
Figure 68: Overlapping Category (Summary).....	177
Figure 69: Emergent Themes.....	178
Figure 70: Web User Types (OxIS 2011 Study).....	191
Figure 71: Model of Trust.....	193

Figure 72: Model of Confidence.....	194
Figure 73: (Stage 2) Trust Model	195
Figure 74: (Stage 2) Confidence Model.....	195
Figure 75: Model of Confidence.....	198
Figure 76: Model of Trust.....	209
Figure 77: Model of Trust.....	214
Figure 78: Model of Confidence.....	215

GLOSSARY OF TERMS

eCommerce.....	Electronic Commerce
Web.....	World Wide Web
IS.....	Information Systems
Trustor.....	The trusting party
Trustee.....	A trusted other

1 TRUST, CONFIDENCE AND WEB BEHAVIOUR

1.1 BACKGROUND

This work is centred upon the social constructs of trust and confidence and how they influence an individual's Web behaviour. It is not a manual on how to achieve or create trust on the Web; it is focussed more on what trust actually is and how – if at all – it impacts upon people's Web behaviour. The thesis works to clarify the cloudy understanding of the trust construct and the understanding of trust on the Web. This work can be used by those wanting to 'create trust' or merely 'understand trust' as it works to provide a thorough and comprehensive insight into the concept, how it is developed and how it functions.

This research is concerned with understanding whether it is actually the construct of trust that exists and operates on the Web, or whether it is a comparable construct commonly misconstrued as representing trust, i.e. confidence, familiarity, or indeed cooperation. Whilst this may initially present itself as little more than a semantic argument, it does carry significant weight when we consider that 'nothing in society works without trust. It is the foundation of communities, commerce, democracy – everything' (Schneier 2012). The rapid and continued growth of the Web has enabled communities (Valenzuela et al. 2009), commerce (Hernández et al. 2010; Grandón et al. 2011) and democracy (Latimer 2009) to exist online as well as offline. So, to understand how, or even if, these elements of trust and the Web interact, helps us better understand whether trust impacts Web use, and if so, to what extent.

One of the principal drivers behind this research is the lack of consensus and understanding within the literature of how trust works on the Web (Taddeo 2009). Trust, as is explained within this study, is an incredibly complex and influential construct, yet remains one that is often misdirected, taken for granted, taken on face value and commonly misunderstood (Connolly 2007); in other words, the meaning of trust is usually sold short. Taking this approach toward understanding trust and then applying it to the Web context illustrates why there is a lack of consensus within much of the Web trust literature, as well as explaining why it often attempts to offer unrealistic solutions to harnessing trust on the Web.

Taddeo (2009) points out that 'some of the literature has denied that trust in digital environments may ever occur. This position rests on the assumption that "trust needs touch" – that it needs to be based on direct physical interaction, which of course does not exist in digital contexts'. Yet, there is much literature within the information systems field – including that of Taddeo (2009) – that supports the notion that trust can and does exist online (Becerra & Korgaonkar 2011; Tang et al. 2012).

Trust involves risk, and the idea is often taken that by taking steps to reduce or even eliminating risk within the online environment would, theoretically at least, lead to trust. However, this again is *underselling* what trust is about. Nissenbaum (2001) challenges this idea of achieving trust online through the use of security measures and techniques. The premise existed – and possibly still does – that trust is about uncertainty (Fukuyama 1995) and removing this uncertainty on the Web through the use of security features will in turn create trust (Toufaily et al. 2013; Gefen 2000). She argues that, although aspects of this are true, there are many more peculiarities to the trust construct beyond uncertainty and risk that require consideration. In other words, by taking a slither of what trust is and meeting its need does not automatically create trust.

The remainder of this chapter will develop on the above, will set the boundaries for the study, will outline the aims and objectives and will guide the reader though the remainder of the thesis.

1.2 SETTING THE BOUNDARIES

There are two core topics within this work, the concept of trust and the subject of the World Wide Web, these are briefly outlined in the below subsections.

1.2.1 WORLD WIDE WEB

The World Wide Web is the focus of the study, not the Internet within which the Web resides. As it can be a challenge to describe the Web without discussing the Internet, there are sections in this thesis that work to explain the history of both, and in doing so, outline the difference between the two (see Chapter 2). Rather than looking at the entire Internet arena – the hardware, network infrastructures, systems, etc. – it is focussed on the aspects that ‘regular users’ use on a daily basis. The Web is the part of the Internet that is used to stay in contact with others, to make purchases, to pay bills, to check accounts, to email, to collaborate, to find information, play games, make connections and transact with public and private organisations. Throughout the IS literature, not only are the terms of the Internet and World Wide Web used interchangeably, but numerous labels are applied to it, for instance www, Web, ‘net, cyberspace, information super-highway, the virtual world and the online world. Throughout this thesis the Internet will be phrased correctly as the ‘Internet’ and the World Wide Web will be referred to within the thesis as the ‘Web’.

1.2.2 TRUST

It was largely unanticipated by the author that the concept of trust was such a vast, complex and extraordinarily rich construct – and one that has no agreed definition. The literature shows a lack of consensus with regards to what it is, what it means and all its inherent peculiarities. There are suggestions that individuals

can trust in institutions (Grönlund & Setälä 2011), organisations (Kramer 1999), governments (Bélanger & Carter 2008), abstract systems (Giddens 1990), information (Warren 1999), objects and much more besides. Conversely, other authors (Offe 1999; Seligman 1997; Putnam 1993) agree that trust is something that can only legitimately exist between people, due not only to the nature of trust itself, but due to some of these peculiarities and characteristics that are known to exist within trust, e.g. reciprocity and benevolence. Nissenbaum (2001) explains that ‘in a reciprocal relationship, we trust others not because we have common ends, but because each of us holds the fate of others in our hands in a manner of tit-for-tat. This may occur, for example, when people are taking turns. The agent whose turn it is first deals fairly, reliably, or responsibly with the other because soon the tables will be turned’.

Within this thesis, as opposed to discussing trust from a system, government, organisational, context the author will be researching the core concept of trust from the ground up. Understanding what trust is in its purest sense should, in theory promote an understanding of what it is in other contexts and whether it remains valid, in addition to allowing the possibility to compare applications from other disciplines.

1.3 WEB TRUST

This section provides a brief overview of the importance of the Web as well as the significance of trust to a modern society.

1.3.1 THE IMPORTANCE OF THE WEB

The crucial aspect that makes the Web environment so important today is its ubiquity. Looking into the history of the Internet and the Web over the last thirty years shows that it has emerged from a series of unanticipated development ideas and accidents (Ryan 2010) and was in large part fuelled by the ‘classic nerd trait of deep impatience of things that don’t work as well as they should’ (Segallar 1998).

Not only have the technical and hardware developments have enabled the Web to grow in capacity and capability, (O’Neill 1995; Ryan 2010), but the ‘usefulness’ of much of the content has continued to drive it forward. ‘The widespread diffusion of the PC and the Internet and the response of the computing industry to the diversity in consumers has led to a rich set of personal and domestic services’ (Cummings & Kraut 2002). Irrespective of whether the task is mundane, such as completing government forms, paying bills, ordering groceries, or the more involving, social elements of gaming, gambling, streaming movies, and keeping in touch with friends, there are very few aspects of society that the Web has not able to touch. It has become crucial to the economy and now even considered crucial to the social lives of its users (Qin 2009; Qualman 2012).

1.3.2 THE IMPORTANCE OF TRUST

Some of the reasons why trust is considered important have been touched upon in the earlier section; trust is understood to affect everything in society. Not only this, but it is put forward that it is a crucial component to creating successful societies (Fukuyama 1995; Putnam 1993), those that are wealthier (Knack & Keefer 1997), better educated (Triandis et al. 1988), and even healthier (Cohen et al. 1997). It contributes positively to our lives (Uslaner 1999), this is what trust does.

How does it manage to achieve this? One of the central aspects of trust is that it is understood to be a tool for decision-making (Luhmann 1990). More specifically, trust works to reduce uncertainty and complexity in a situation of risk (Seligman 1997). Rather than considering and analysing every conceivable outcome associated to a particular decision, we may choose to trust. Trust is a tentative and intrinsically fragile response to our ignorance, a way of coping with ‘the limits of our foresight’ (Shklar 1984). As Fukuyama (1995) points out, ‘it is not rational for people to be “rational” about every single choice they make in life. If this were true, our lives would be consumed in decisions over the smallest matters.

‘Trust facilitates cooperation and success within civil and political society; it enriches individuals’ lives by encouraging activity, boldness, adventure, and creativity, and by enriching the scope of the individuals’ relationships with others’ (Nissenbaum 2001). Although this sounds incredibly utopian and idealistic, deeper investigation into trust shows that the outcomes of a trusting society can produce such things, and greater things beyond.

This research takes the idea that trust is a tool for decision-making in a situation of risk (Seligman 1997), and working from this, further elements are unpacked in order to get to a core concept and understanding of how it operates. Trust is a judgement made upon two key elements – *propensity to trust* and *perceived trustworthiness* – and one that is made in a situation containing an array of peculiarities. This thesis proposes that trust can be perceived as a process of:

- **i) Disposition to Trust:** This can be understood as ‘attitude to risk’ (Hofstede 1980). In effect, this is recognised as the general willingness of an individual to trust. Propensity to trust is recognised as being developed, shaped and influenced by culture, society, experiences as well as factors such as temperament in the form of optimism and pessimism (Fukuyama 1995; Uslaner 1999; Luhmann 1990).

- **ii) Perceived Trustworthiness:** This refers to an assessment of another person’s (known or unknown) expected behaviour (Gambetta 1990). It is done by considering the competence, integrity and benevolence of this person and drawing conclusions about how trustworthy they are likely to

be given the specific context. There is a debate that trust can only exist between people, not organisations or objects; this is explained more comprehensively in Chapter 3.

- **iii) Peculiarities of Trust:** For a decision to be deemed driven by trust, inherent to it, is a specific set of peculiarities that distinguish a trust decision from one founded on a similar construct such as cooperation or confidence. As well as involving the above two aspects, within trust, there must also for example, be a possibility for exit, betrayal or defection (Gambetta 1990) or that there are no guaranteed outcome or measures of protection (Adams 2005).

Put together, the process (i) considers how trusting an individual is, (ii) how trustworthy they perceive another person to be within a given context, and lastly, for this decision to be characterised by trust it (iii) requires the presence of various peculiarities, most of which are focussed around risk and vulnerability.

1.3.3 THE IMPORTANCE OF TRUST ON THE WEB

The literature into trust on the Web is predominantly focussed on B2C eCommerce trust (Shneiderman 2000; Corbitt 2003; Connolly 2007; Becerra & Korgaonkar 2011) with little concern for how trust influences other Web exchange relationships such as social networking, online gambling, email, etc. Within the literature the onus is not on understanding or defining trust, as the idea of trust is largely taken for granted. A factor that adds further confusion to an already misunderstood concept.

With communication, commerce and many aspects of our social lives from friendships to relationships now taking place on the Web, the aspect of trust should be just as dominant, and just as crucial to the success of it. If it is trust that makes society function (Fukuyama 1995), makes people cooperate and encourages activity and risk taking (Nissenbaum 2001) then the Web, must surely operate on the same rules?

Some authors have argued that the success of the Web has been built on the basis of trust, and more crucially that it wouldn't continue to grow without its presence (Gefen et al. 2008; Blanchard et al. 2011). The more trust there is online, the more people – akin to the offline comparison to societies and communities (Putnam 1993) – will get involved and take part.

Therefore, the same instances of how trust influences life in the offline world, should align to the Web; and so if people hold minimal amounts of trust, *a low propensity to trust*, then their interactions and uses of the Web would be expected to be equally as cautious, considered and kept to a minimum. The damaging, or negative aspect of this emerges by drawing the comparison to the offline world, where those with a low propensity to trust have a hindered capacity to prosper or succeed, as cooperation between unknown others is severely restricted when trust is low, therefore limiting any potential benefit that can arise from such an

interaction (Gefen et al. 2008; Uslaner 2002; Fukuyama 1995). If people don't trust the Web, then a great resource will be wasted (Nissenbaum 2001); this issue is discussed in greater detail in Chapter 3.

Although the connection between trust and Web use seems on the surface at least to be indisputable and logical, the literature into trust as a 'stand-alone' construct can be seen to challenge this idea.

Elements of the research point to the idea that it is the similar decision-making construct of confidence that supports Web use, not trust itself. Two ideas that support this view and challenge the concept that trust exists online, are:

- a) 'Confidence is the expectation of competence, and trust is the expectation of goodwill and benign intent' (Yamagishi & Yamagishi 1994).
- b) There can be no guarantees within trust; it is a leap of faith where there risks involved cannot be countered or mitigated from. Trust requires person-to-person interaction whereas confidence can be held in persons, systems, objects, governments, etc.

It is for these reasons – and others besides – that the author was motivated to carry out research to not only understand how trust influences Web behaviour, but before that, to understand what this elusive construct of trust actually is, what it does, how it is developed and how it is used.

1.4 PHD JOURNEY

As with many research endeavours, this PhD journey has been subject to change and alteration as the time has marched on. At the outset, the original premise was to investigate the development of eCommerce trust with the intention of creating a set of heuristics used to engender trust. The contribution to research, as well as to commerce of such a tool would – from the authors' point of view at least – be deemed valuable and have demonstrable impact.

The appeal of this area stemmed from an early interest in eCommerce since the dot-com bubble, as well as previous work that researched eCommerce interface design and usability (Makan 2004). Trust was understood to be the central facilitator of electronic commerce as the notion was carried that it could not function without trust, let alone succeed (McKnight et al. 2002). Although this was a commonly held view – (Araujo 2003; Corritore et al. 2001; Egger 2000) – little work was put towards understanding the concept of trust or whether it could exist on the Web. Researching into trust also illustrates an equally confused view, with no consensus on definition (Cvetkovich and Löfstedt, 1999), but a strong agreement on the view that trust is vital within a society as it affects everything in some way, shape or form (Schneier 2012; Fukuyama 1995; Misztal 1996; Gambetta 1990).

Once the research started to take shape the direction began to alter as more current, valid, and arguably, interesting areas became apparent. The research remained firmly on the arena of trust, but as opposed to being confined to eCommerce, the decision was made to take a broader approach and look at trust across the wider field and how it works to influence Web behaviour. Although eCommerce remains a central pillar in the Web context, the massive shifts in personal and social online activities are areas that cannot be ignored. Despite this, trust in relation to general Web use is under-researched, and it still remains that most focus is dedicated to trust and eCommerce activities.

A conscious decision was made to restrict the research to social, domestic and pleasure uses of the Web only, to not only narrow the scope and create a more manageable strategy, but principally as it removed elements of potential bias from the study. Social, domestic and pleasure uses of the Web are considered as those that are open to the users' personal preference, rather than being guided by a workplace or study requirement. This approach has the potential to create a more robust piece of research as it relies solely on the choices of the individuals involved.

If the notion is carried forward that much of Web relies on and is influenced by the trust construct, then a greater understanding of what trust actually is and how it functions on the Web is imperative. As opposed to taking the construct at face value (Connolly 2007), effort should be put toward understanding the core concepts of trust, working toward clearing through any misconceptions to arrive at a firm understanding. This understanding of the construct can then be applied to the Web context to see the influence – if any – it has upon user behaviour.

1.5 RESEARCH AIMS

There is one central question that the research aims to address. In addition to this there are four aims and three objectives that emerge from the overall investigation.

The research question is to ***understand trust and confidence and how they work on the Web***

There are two initial aims of the research, these are:

- To gain an understanding of risk, confidence and trust
- To understand how these constructs work in the Web environment

A third and fourth aim that was developed during the course of the research,

- Develop a model of confidence and model of trust
- Consider how both the above models relate to Web use

The objectives of the research are:

- To identify key aspects of Web use for social, domestic and pleasure
- To identify the relationship between risk, confidence and trust and how they relate to one another
- To investigate the significance of risk, confidence and trust with regards to Web use.

1.6 METHODOLOGY

The methodology was selected using the techniques of Crotty (1998), in effectively outlining four key elements that, if followed, facilitate a solid foundation for the research, ensuring that the research answers the questions demanded of it.

The author supports the view that the accuracy and validity of an IS research project are directly related to the research approach and design that has been adopted. Within this instance, the process involves four stages of identifying the *epistemology*, *theoretical perspective*, *methodology* and then finally the specific *method* that will be used to shape and guide the data gathering and analysis phase.

Epistemology: Of the three core epistemological perspectives – objectivism, constructionism and subjectivism – the author is adhering to the perspective of constructionism. The premise behind this effectively means that we subscribe to the belief that our knowledge of the truth emerges from our engagement with the realities in our world (Burr 1995)

Theoretical Perspective: Of the three central IS perspectives – positivism, interpretivism and critical research – the author aligns to the ethos of interpretivism, rather than the rigid scientific views of positivism, whereby ‘individuals and groups construct their own version of reality’ (Gilbert 2001). As explained by Bryman (2005), the interpretivist approach to social sciences is about *understanding* human behaviour, as opposed to the positivist approach which is about *explaining* human behaviour.

Methodology: The purpose of the methodology is to provide a strategy, a plan of action to carry the research forward. As Babbie (1992) perceives it, the epistemology is the *science of knowing* and the methodology is the *science of finding out*. There are effectively two core approaches and an overlapping mixed approach: quantitative, qualitative and mixed methods. This research will be employing a qualitative methodology, those which are ‘characterised by a focus on language (rather than numbers in quantitative approaches), and an emphasis on participants’ interpretations and understandings of their social worlds’ (Hewson 2006).

Method: The idea of the method is to take the plan of action from the methodology and implement it. In short, it is the specific technical procedure used to gather and analyse the data in order to answer the research question. The method chosen was a naturalistic diary study, and akin to the works of Zimmerman and Wieder (1977) a follow-up interview was attached to each diary post analysis. The specifics of the approach – *naturalistic diary and follow-up interview* – were decided upon following a pilot study that highlighted several flaws with the quality and efficacy of the data captured. Careful consideration was applied to the planning, design and implementation of this method as, although it is a legitimate means of capturing observation data, poor planning and consideration can render the data gathered largely useless and incredibly weak.

The advantages to this approach are not only centred on geography and resources, but its ability to – provided that sufficient freedom is given to the participant – capture natural and sensitive observational data. This was the fundamental rationale behind the choice of the approach.

1.7 CONTRIBUTION

The thesis develops an understanding of trust, confidence and a process model of both these constructs.

Upon taking account of these models and definitions it combines to demonstrate that the use of the Web is shaped by the construct of confidence, not trust. The literature into Web use and in particular eCommerce works on this idea that trust influences Web use and therefore understanding what trust is enables practitioners a better understanding of how the Web develops and how to take better advantage of its capabilities.

In addition the above, the author feels that the core contribution of this thesis is the work that has been put into understanding and modelling the process of the trust construct. The literature explains and demonstrates why trust is considered a critical construct to the functioning of a successful society, and therefore clarifying the misunderstandings and better understanding how it develops, how it functions and what makes trust *trust* is of equal importance.

1.8 THE THESIS OVERALL

The rest of this PhD thesis is broken down into 8 chapters as follows:

Chapter 2: Internet Development

This is the initial chapter of three that covers the literature section of the research. This chapter is focussed on the development history of the Internet and World Wide Web, leading up to the present day period and providing an overview of the Web usage and trends in the UK and US.

Chapter 3: Trust

This chapter examines the construct of trust. The current research is presented along with the inherent challenges within. From this and further research into trust within society, within exchange relationships etc., a definition of trust is given. In addition the constructs of risk and confidence are also analysed and definitions brought forward based upon the surrounding research.

Chapter 4: Defining the Constructs

In addition to providing clear definitions and process models of the work into trust, confidence and risk (Chapter 3), this chapter also takes the literature understanding of trust from Chapter 3 and applies it to the Web context.

Chapter 5: Research Methods

This is effectively a summarisation of the issues discovered within the literature section and aligning it towards the research question, aims and objectives. Within this section, it will be cover the overall nature of the research and the intentions of the study and the justification and design process of the chosen approach – the diary study–interview method.

Chapter 6: Data Analysis

The work discusses the approaches available to this type of research and then centres its focus on justifying the use of thematic analysis using the hand-coded techniques. The latter part of this chapter (6.4 onwards) covers the preparation of the research data, its subsequent analysis and finishes with an analysis of the themes that emerged.

Chapter 7: Discussion

The discussion chapter is framed around the findings of the study. It is broken down into three stages, i) discussing the findings from the study, ii) discussing the study findings in relation to the literature, iii) discussing what the findings contribute to the literature.

Chapter 8: Conclusions

In addition to the contribution of the research, the conclusion section covers five further key points, summarising the research, evaluating the goals, the research methods, the findings, and also discussing future research that can be applied to this work.

2 INTERNET DEVELOPMENT

In the developed parts of the world, the Internet impacts most individuals life on a daily basis (Morse et al. 2011), and although it has a short history, it is one that remains incredibly colourful. The impact and influence it has had, and continues to have on the world is unprecedented by the standards of practically all other technological feats that have preceded it. The Internet is a technology so unusual and so profoundly unlikely to have been created that its existence would be a constant marvel were it not a fact of daily life (Ryan 2010).

Firstly, a brief outline of the historical developments of the Internet and World Wide Web is presented. The chapter then moves towards the central focus of identifying the current Web usage trends within the developed parts of the world – namely UK and US – the ways in which the technology has developed and how it is being utilised within society. There is wide debate on technological determinism (Wyatt 2013) – this idea of whether technology shapes society or society shapes technology – that although important and requires acknowledging, it doesn't form a key piece of this research.

2.1 INTERNET AND WORLD WIDE WEB

There is a common misconception that the Internet and the World Wide Web (WWW) are one and the same with the terms often being used interchangeably. 'The Internet is like a network of electronic roads criss-crossing the planet – the much-hyped information superhighway. The WWW is just one of many services using that network' (Gillies and Cailliau: 2000).

The roots of the Internet are grounded within US military technology of the 1960's. The 'Web' however is a different entity, created at the CERN laboratories in Europe by physicist Tim Berners-Lee in 1989. The Web is an ever-expanding collection of documents and pages that are linked together and accessed through the Internet with the use of a Web browser (Fischetti: 1999). However, more recently there has been a shift toward mobile access, with 57% of the US population accessing the Web through a cell phone (Duggan, 2013) (51% in the UK (Dutton, Blank, & Groselj, 2013)).

A noticeable chunk of 'Internet story' focuses on the twenty years or so since the creation of the World Wide Web and this work of Berners-Lee, however the history of the Internet stretches a few decades further back. 'Since their inception, computers have generally been viewed as time saving devices. In reality, however, computers are also very effective time consuming devices that force users to reallocate their limited time and change the ways they perform tasks. This fundamental paradox is simultaneously the promise and the frustration of computing' (Vitalari et al. 1985). The most interesting aspect of this statement isn't so

much the recognition of a paradox, but the fact that it was prominent enough to be recognised in 1985 when computing was still arguably in its infancy. Although this period was infamous in the history of computing and information technology (IT) in general, with the development, launch and considerable growth of the first personal computers (PC's), it still remained a technology that was only accessible and useful to a narrow set within society. Similar to most 'new technologies', applicability and usefulness were limited, before even addressing the issue of the prohibitive costs involved.

Since these early days, advancements in the realm of computing and IT have continually pushed forward, thus not only domesticating IT (Cummings & Kraut 2002) but making it pervasive throughout modern society (Satyanarayanan 2001). It is due to the Web that this paradox still exists today more than ever before. Although there are numerous, typically overlapping and totally unanticipated reasons supporting the adoption of IT, one of the central – if not the central – drivers has been the Web. Segallar (1998) made the observation that as a communications medium, the Web 'rivals the telephone system or television in its scope and reach' however, this scope and reach has been long since surpassed in a much shorter space of time. Most African countries now have much higher cell phone penetration rates than fixed-line penetration (Gray et al. 2006), and WiFi technologies allowing for the Web be easily accessed in some of its most rural parts. The 'evolution of networks in the developing world is taking quite an alternative route from the traditional types of networks we observe in the industrialised world' (Subramanian et al. 2010). Most of the earlier technologies, such as fixed line connectivity has been simply bypassed, with developing countries using Web (accessed via WiFi) instead of fixed line telephone calls as a means of staying in touch with one another (Pentland et al. 2004).

2.2 THREE DECADES OF INTERNET DEVELOPMENT

Using a decade-by-decade analysis, leading to the development of the Internet as it is recognised today, this subsection identifies some of the key milestones that have occurred. Leading from this will be a deeper analysis into the Web and, more crucially, its impact on society and the economy at large.

- **1960's:** The successful Russian launch of Sputnik in the fifties was believed to have spawned the beginnings of networking experiments in the US (O'Neill 1995). With the remit of developing a durable communications network that could survive a nuclear strike, the Advanced Research Projects Agency (ARPA) was formed by the US. This agency 'had a wide intellectual remit and the scope to pursue long-term basic research' (Ryan 2010), from which came the ARPAnet, which a few decades later became known as the Internet.

- **1970's:** The seventies presented a different era for the development of the Internet, which was then still known as ARPAnet and remained largely a government run project in the early part of the decade. Continuous effort was required with software and protocols to ensure compatibility between different types of machines as the network continued to expand. One of the biggest accidental and surprisingly easily development applications of the ARPAnet was the creation of electronic mail, known more commonly as e-mail (Denning 1989; O'Neill 1995). This was developed as a 'hack' in the space of a day, and was reportedly done almost accidentally, rather than a feature which was planned and designed from the outset. Although 'ARPA would never have funded a computer network to facilitate e-mail' (Segallar 1998), it had tremendous benefits and became the main use of the network incredibly quickly (Denning 1989). Taking into account the some of the recent works of online use within the developed world, e-mail still represents the primary use of the Internet (Dutton, Blank, & Groselj, 2013; Kathryn Zickuhr, 2010).

- **1980's:** The 1980s was when networking became professional; this was the era that experienced immense networking expansion due to the launch of the personal computer (PC) in the late seventies. After it was introduced to the broader market (by Apple and IBM), it was not long before people began bringing these computers home to connect to national networks...primarily for work related purposes (Vitalari et al. 1985). 'It was the PC as a business machine, whose utility was multiplied when the prospect of networking and connecting data became real' (Segallar 1998). Tom Forster in 1989 claimed that 'the microchip has put cheap computing power on the desks of millions...computers are proliferating as never before...computers have entered into society's bloodstream – and they are becoming ubiquitous because they are cheap'. However, it would be naïve to suggest that price has been the only driver to IT proliferation; as will be explained in the next section, it was the combination of elements such as price, functionality, usefulness and usability.

2.3 THE NINETIES

Of those covered so far, the nineties are probably the most widely discussed decade of the Internet's history. This was the period when the Web was developed, and the technology became truly accessible, affordable useful and actually desirable to the masses as opposed to a small subset of people. The events in the early part of the decade proved pivotal in facilitating the growth, accessibility and appeal of the Internet and IT.

The section has been divided into four major developments from the decade;

- i) World Wide Web (WWW),
- ii) Removal of restrictions,

- iii) Electronic Commerce (eCommerce),
- iv) Domestication of IT

However, due to the overlapping relationships between some of the events, they do not present events in a strict chronological order.

2.3.1 WORLD WIDE WEB

Of the four milestones, the first event is probably the most central – the development of the World Wide Web. The Web as it became known was created by the individual brilliance of one information technology consultant, an Englishman named Tim Berners-Lee, in a nuclear research laboratory in Europe’ (Segallar 1998).

The idea was for this Web to be a pool of human knowledge that would allow collaborators in remote sites to share their ideas and all aspects of a common project (Berners-Lee & Cailliau 1994). The aim was to enable incompatible machines to communicate and share information. ‘Irrespective of the type of data, its format or computing platform, any data on the Web such as a text, image or movie file could be called up from a web server by a simple URI (universal resource identifier)’ (Ryan 2010).

‘The Web was designed so that if it was used independently for two projects and later relationships were found between the projects, then no major or centralised changes would have to be made, but the information could smoothly reshape to represent the new state of knowledge’ (Berners-Lee & Cailliau 1994). In order to support this idea, Berners-Lee developed a hypertext language called HTML, a browser and editor that allowed users to create and view these files. Interestingly, although ‘the WWW, one of the most important advances in human communications history had been invented, surprisingly, in retrospect, almost nobody cared’ (Ryan 2010).

In the early nineties, the majority of Web browsers were developed at university level by students who later abandoned them believing that ‘the Web was essentially a curious but limited technology’ (Ryan 2010). There was a dual relationship appearing at this point of the Web’s history, the increasingly useful nature of the content and its possibilities, along with the value of the technology that underpinned it began to grow simultaneously. The development of the Mosaic browser in 1993 – which grew to become Netscape – was one of these elements in that, although the Web was perceived as a ‘curious’ technology, one thing that brought it to the limelight was Netscape’s Initial Public Offering (IPO), which at the time in 1995 became the biggest in history (DeLong & Magin 2006). Suddenly a mass of attention came from governments, industry, economies and societies at large; the Web became something to be a part of.

2.3.2 REMOVAL OF RESTRICTIONS

One of the lesser-known events of this decade occurred in 1992 when the Internet was freed by the US government of its non-commercial restrictions, and in doing so, it quickly became a medium not just for information, but for commerce...as a result in the 1990s, the Internet became a mass, ubiquitous phenomenon' (Segallar 1998). Although it had been around for some time, the nineties brought it to mass attention as not only did the 'WWW put a friendly face on the network' (Ryan 2010) by supporting the use of different content and formats – rather than the mere text capabilities of the Internet – but by improving usability through graphical user interfaces. This change in restrictions paved the way for the Web to become a medium for commerce as well as information. This quickly created a new market place, ideal for everything from marketing to transacting business, and so the process of eCommerce was born.

2.3.3 DOMESTICATION OF IT

The 'domestication of IT' refers to this shift from PC's in a typical, income-producing, working environment to a domestic setting for household, personal purposes (Habib & Cornford 2002). The mid to late 1990's represented – in the UK and US – the period when IT proliferation increased massively within the home environment. In addition to the reducing cost factor of home PC's, this widespread domestication of IT can be attributed to the development, and more importantly, the appeal of the WWW (Cummings & Kraut 2002).

The author believes that this domestication wasn't driven by a single development or event within the field of computing and information technology – more a culmination of factors coming together at the right time. Through this period, the domain underwent immense improvements in usability (Bevan 1995) supported by graphical user interface design (Benini et al. 2005), greater functionality, applicability (Dewan & Riggins 2005) in a market of continually reducing hardware costs; the next major shift bringing all this together and pushing further for IT adoption was the WWW. It had a practical purpose in that it was not only a truly useful tool for accessing information, but it had entertainment value too. Web operators were – and still are today – continually developing and perfecting new uses for the technology, improving on existing processes and making new things possible. The content and the technology have always had a dual relationship as a shift in one area provides or pushes for new developments in the other.

2.3.4 ECOMMERCE

The lifting of non-commercial restrictions created the perfect platform for the Web to grow through the development of eCommerce. This development alone has led to one of the biggest cultural and economic shifts in modern times. 'Electronic commerce – eCommerce – is often thought simply to refer to buying

and selling using the Web...but it involves much more than electronically mediated financial transactions between organisations and customers. Many commentators refer to eCommerce as all electronically mediated transactions – payments, purchases, information, marketing, etc. – between an organisation and any third party it deals with' (Chaffey 2011). When considered outside of the 'buying and selling' box, it becomes apparent that eCommerce accounts for an impressive amount of Internet traffic. Ninety-three per cent of American Internet users have engaged in eCommerce-related activities, including researching information about a product they are thinking of buying; more than a quarter of them report to do this on a daily basis (Flanagin et al. 2011).

Recent UK statistics for online spending go some way to illustrating how important and influential this marketplace has become to the economy. For instance:

- In November 2013, over £10.1bn was spent online by UK consumers (Guardian 2013)
- UK consumers are now the biggest online shoppers in the developed world – with almost two thirds of adults purchasing goods or services through the Web (60%). This is followed by Denmark (54%) and Norway (53%) and is almost double that of the US at 34%. (Telegraph 2012).
- The British Retail Consortium identified that close to one-in-five non-food items were purchased online in December 2013 (representing 18.6% of total UK non-food sales). (BBC News 2013)
- Overall online spending increased by 19.2% in 2013, something that clearly shows that not only does eCommerce account for a huge proportion of the UK economy, but an increasing one at that (BBC News 2013).

The author views the nineties as the first 'phase' of the Web story; this period when it first marked out its territory by becoming commercially popular through efficiency benefits – such as eCommerce and replicating existing offline processes, and in doing so making them available twenty-four hours a day. It became socially popular through useful, interesting, novel content, and new capabilities such as the ability to communicate with anyone connected in real-time through messenger services or email, often at no cost.

2.4 THE MILLENIUM ONWARDS

In the developed parts of the world, the Web established itself as a part of daily life, and five key constructs of importance to this are examined below:

- i) Dot-Com Bubble
- ii) High-speed and Mobile Access
- iii) Digital Divide
- iv) Web 2.0
- v) Social Networking

There is a duality of relationship between the technological advancements and the shifts in society with reference to the use of the Web. The author carries the belief that this most recent period of the Web's history has seen the most influential shifts on culture, society and the economy. This duality has taken the foundation that was established in the nineties into a whole new, almost unimaginable realm of Web possibilities as the infrastructure has continued to develop.

2.4.1 DOT-COM BUBBLE

The proliferation of IT and continuous growth of Web use in the nineties brought with it a colossal stock market boom that became known as the “dot-com bubble”. This was a period of massive growth in the stock valuations of practically all Web and Web-related technology companies.

The availability of capital, with the willingness to invest into this largely unknown territory of *the Web* resulted in numerous investments into companies that not only lacked sales, cash flow, profit, or even a potential for profit, but in many instances, relied entirely on a business model that made no practical business sense whatsoever. At the time, the *very real* view was believed that ‘companies that are not Internet companies won't be companies at all’ (Naughton 2006). ‘Creating an impression of extremely rapid Internet development may have worked to propel the rush to invest into every dot-com that came along...and so no price is too high to be the first to stake a claim in another ‘California gold rush’ (Odlyzko 2000). Many online businesses pursued a ‘get big fast’ (GBF) strategy, pricing low and marketing heavily to build their user base, in the belief that there were significant sources of increasing returns favouring early entrants and large players (Oliva et al. 2003).

This trend continued, in September 1999 the IPO of VA Linux Systems launched into a 698 per cent share price rise on its first day of trading from \$30 to \$239.25 (Ritter 2008). There are numerous examples that encapsulate the levels of excitement in the markets at the time, for instance:

- **Webvan.com** (over \$1bn invested to create the first online grocery store)
- **Kozmo.com** (\$250m invested for hand delivered DVD service),
- **ThirdVoice.com** (\$15m raised for a plug-in that allowed the user to attach virtual sticky notes to a website), which failed in spectacular fashion.
- **Boo.com**; the online fashion, clothing and sportswear company built entirely on \$135m of venture capitalist funds. ‘It took only six months for a company once touted as the darling of the venture capitalists to achieve even greater notoriety as one of the greatest e-commerce failures. Boo.com is

the archetypal dot-com failure. It was a company born in a flurry of hype, raising a large influx of start-up capital based on a promising concept' (Geist 2002)

'More venture capital was given out during the few years these companies were founded, than in the entire history of America. Business and consumers were spending record amounts and Internet usage surpassed almost all predictions' (Kaplan 2007). The dot-com bubble ran from the late nineties and ended spectacularly in early March 2000 (DeLong & Magin 2006).

The fact that the Web survived the 'dot-stock bubble' relatively unscathed and continued to expand shows that it is more than merely a tool for marketing, selling products, generating capital and taking offline process online. The way that it has continued to grow toward more collaborative and social spheres is an indication that the Web isn't something that can be easily pigeonholed into a neat category. More recently, there is an emerging belief that current tech-stock is overvalued, with the likes of Twitter, Facebook, and LinkedIn being evidence that the period of overpriced IPO's for online companies is repeating the previous pattern – a period where stock prices initially defied logic, then began to level (New Yorker 2014).

2.4.2 HIGH-SPEED & MOBILE ACCESS

Domestication of IT continued, as 'by 2000, the Internet became an information and communication medium that was integrated into our everyday lives' (Buente & Robbin 2008). A 'major change since 2003 was the move from narrowband dial-up to broadband always-on Internet connections' (Dutton & Blank 2011). Not only did this significantly expand end-user connection speeds (Labovitz et al., 2010) and reduced costs, but being 'always-on' allowed for fast, uninterrupted access.

Arguably more important and influential than launch of broadband, was the development of 'third generation' (3G) mobile connectivity, which was quickly followed by 'wireless fidelity' (WiFi); both these technologies allowed for fast and truly mobile access to the Web. 'Mobile and wireless have known a success that is beyond the most optimistic initial expectation' (Correia 2006). WiFi has now become the preferred means of connecting to the Internet (Lemstra et al 2011). The most recent studies show that within the UK, wireless connectivity within households is at 96% (Dutton et al., 2013), and in the US, some 59% of the population go online wirelessly via smartphones or WiFi (Zickuhr, 2010). This is why it becomes understandable that Brodtkin (2008) reports the expectation that the mobile phone will be the primary device used to access the Internet by 2020.

'By 2009, nearly all UK Internet users had a broadband connection, increasingly including wireless connections within the household, such as over a WiFi router' (Dutton & Blank 2011). This mobile capability in terms of speed and access – along with carefully designed interfaces that take into account input challenges

of mobile devices and limited bandwidth (Karlson et al. 2010) – has led to a shift in how users not only access the Web, but how they use the Web.

The most recent UK office of National Statistics (2013) survey shows that ‘access to the Internet using a mobile phone more than doubled between 2010 and 2013, from 24% to 53%’ (Britain 2013). As the capabilities of the technology – both the devices in terms of smartphones and tablets, and the capacities of the networks in terms of WiFi, 3G and 4G – are continually improving, the very real likelihood exists that within a very short period of time, access to the Internet will be led by mobile devices. Any disparities that initially existed between website capabilities and speed of mobile access *versus* traditional broadband and computer access have quickly eroded to a point that it has become almost seamless. The author believes that the shift will continue with mobile access taking the lead due – primarily, but not only – to the convenience benefits it delivers in terms of immediate access, but also how it supports the behaviour of the users to allow for fast, immediate, secure access through mobile browsers and increasingly through the mobile ‘app’. From the diary study, the use of mobile devices to access the Web was a prominent activity, however, and more significantly the *preference* for access through mobile apps emerged as a key theme from the research (see Chapter 6.5). Several participants made the point that once a process could be completed via a mobile device using an app (as opposed to a traditional desktop using a Web browser) then this became their preferred and most frequently used point of access.

More recently there is a convergence happening between other technologies and integrated within is the Web in a varying capacity, for instance streaming Web TV services, Web accessible gaming consoles to smartphone operated central heating systems are instances of how existing technologies are making the further leap across boundaries. Within this thesis, the understanding of Web use encapsulates all of these types of functions, irrespective of whether it is a process that is conducted through the Internet (such as email) or through the Web itself.

2.4.3 DIGITAL DIVIDE

The ‘original’ digital divide – a term coined in the mid-late nineties – referred to the gap that exists within society between those that have access to the Web and those that do not. ‘Since the lack of Internet access excludes people from many important resources’ (Hargittai 2010) the ‘digital divide’ became a more prevalent political topic as the importance of the WWW grew within society. Put bluntly, the fear existed that the benefits of the Web – in particular, the educational benefits – were destined to be the preserve of those with higher incomes, better education, etc. The ‘have’s’ continue to have and the ‘have not’s’ continue to be without.

Since 2000 a further shift has been identified and termed as the ‘secondary digital divide’, however in this instance, this ‘refers to the gap with intensity and nature of IT’ use rather than to the gap with access to it’ (Jackson et al. 2008). The secondary digital divide is concerned with the inequality from skill and usage differentials; how the use of IT’ rather than access to IT’ has led to inequalities (Dewan & Riggins 2005; Wei 2012).

However, we argue that, regardless whether it is a second divide, or a continuation of the original divide, a gap is still apparent and still occurring between different groups within society. The problem remains that those that use it [the Web] more, use it in more different ways, and so gain significantly more benefit from it, be it educational (Latimer 2009), socio-economic (McLaren & Zappalà 2002), or even simply for entertainment (Livingstone & Helsper 2007). Whether this is still likely to be the case with more current and future studies is something that is yet to be seen. The growth in mobile capabilities in terms of access and devices, not to mention the more palatable rather than prohibitive costs mean that accessing the Web is no longer the hurdle it once represented. As The Conversation (2014) article points out the digital divide ‘gap’ in Australia is narrowing rapidly but only from the perspective of the mobile users; ‘beyond the use of smartphones, the gap is closing slowly’. Further studies would be required to confirm any difference in nature of use but the author believes that although ‘access’ in itself is no longer as contentious or as definitive as it once was, different socioeconomic groups would differ in terms of the nature of their Web use. Despite ubiquitous access, how different socioeconomic groups would use it, what they’d use it for, and ultimately whether they’d use it at all are all elements that are likely to divide the population.

‘There is an on-going consensus that the actual use of the Internet is a more prevalent source of inequality than the plain access to the Internet’ (Wei 2012). The summary within this section (2.6) discusses this idea in greater details and does so using some of the most prominent and detailed Web use research available.

2.4.4 WEB 2.0

Labovitz et al (2010) illustrates three key shifts of the Web since 1995:

- i) The WWW and Internet adoption
- ii) Broadband technologies and enhanced connection speeds
- iii) Applications like social networking and video content are again reshaping consumer Web usage.

The author considers this latter stage; this growth in social networking differs from the previous two elements, as the driver was purely the content, rather than the simultaneous developments in the underlying technology and the content.

Dale Dougherty coined the term “Web 2.0” in during a conference brainstorming session in 2004 (O’Reilly 2007). The significant aspect of this term is not just the nod to the use of technical nerd-speak, but it signalled that the Web had entered a new phase.

- Release 1.0 was revolutionary but limited (Ryan 2010). The first iteration of the WWW was essentially a broadcast mechanism for information to reach users
- Web 2.0 was the mechanism whereby the users could not only interact with other users significantly more, but the ability for them to provide their own content.

This term represented the change in the nature of the Web that enabled users to provide their own content, irrespective of format to share with other users. This mechanism spawned everything from Wikipedia, YouTube, Flickr, to blogs, forums and MySpace, etc, all of which are driven by Web 2.0 functionality. Web 2.0 differs in that it is understood to always be in ‘perpetual beta’, as information and content are now plastic and mutable, open-ended and infinitely adaptable by users (Constantinides & Fountain 2008). The appeal is understandable, and this adaptability enables Web 2.0 to continually evolve, providing new, intriguing and – on occasion – truly useful, innovative functionality. The Web becomes a less functional space, a more entertaining and engaging space. ‘This new focus creates a riper breeding ground for social networking and collaboration. In an abstract sense, social networking is about everyone...the model has changed from a top down, to a bottom-up creation of information and interaction...that give power to the users’ (Weaver & Morrison 2008). It is the characteristics of Web 2.0 – the capability, the simplicity and popularity – that facilitated what some might perceive to be the most important shift in Web usage; social networking.

The current Web is a much different entity than the Web of a decade ago’ (Weaver & Morrison 2008). Even though the developments in the supporting technologies – broadband, WiFi, 3G and 4G – have a part to play in this shift of heavier WWW use, the author feels that a greater influence has come from Web 2.0 applications, and namely social networking. It has led to an arguable shift in attitude and behaviour of the users, all aspects from ‘what’ they use the Web for, to ‘how’ they access it has begun to change as the Web has become even more immersed into the lives of many users.

2.4.5 SOCIAL NETWORKING

The impact of social networking has been immense, as in less than three years it has become the most popular activity on the Web, supplanting pornography for the first time in the Internet’s history (Qualman, 2010). Any website that allows social interaction is considered to be social networking, or social media, such as Facebook, MySpace, Weibo, Instagram, Twitter, QQ, Google+; gaming sites and virtual worlds such as

World of Warcraft, Second Life, and the Sims; video sites such as YouTube; and blogs (O’Keeffe & Clarke-Pearson 2011). It is emerging into all forms, through inclusion into traditional media, newspapers, TV, etc.

The social networking movement has been immense and has not only acted as a driver to non-Internet users, but, more interestingly, increased the time spent online of existing Web users (Valenzuela et al. 2009). ‘Most sites support the maintenance of pre-existing social networks, but others help strangers connect based on shared interests, political views, or activities...catering to diverse audiences, attracting people based on common language or shared racial, sexual, religious, or nationality- based identities’ (boyd & Ellison 2007). This in turn has become one of the ‘future issues’, as social networking needs to maintain development of new means, methods and tools to keep users ‘engaged’, not simply for the process (Solis 2011), but because providers such as Facebook, Twitter, YouTube, etc, have become businesses in their own right, business that are open to the usual economic forces of competition, shareholders, market share, etc.

One of the central reasons behind the continual appeal, growth and diversity of social networking is down to how it aligns to users on a pure, basic level. ‘The mass adoption of social networking websites points to an evolution in human social interaction’ (Weaver & Morrison 2008) humans are social beings and social networking facilitates this ‘human trait’ in a manner far superior than any previous technology (Valenzuela et al. 2009; Ryan 2010). Providing a platform for adaptable, interactive, and engaging content through blogging, photo, video sharing etc (boyd & Ellison 2007) means that it supports this a natural human characteristic of being ‘social’.

Businesses are being created on the back of this online social movement. Crowd-funding – such as in the case of Funding Circle or Kickstarter – is an initiative undertaken to raise money for a start-up project or existing company, a process achieved by collecting small to medium-size investments through promoting the project to other individuals who wish to invest (i.e. a crowd). This funding platform model has been boosted by developments that offer new opportunities and scenarios where consumers can use, create and modify content and interact with other users through social networks (Ordanini et al. 2011). Naked Wines, Groupon or ‘crowd-funding’ entities such as the Funding Circle – categorised as social commerce – carry the same underlying ethos, in that the success of it as a business and a concept relies on bringing people together, ideally in great numbers (Clapperton 2012). Interestingly, this idea of bringing together a group of potential buyers to negotiate for a discount – similar to groupon – emerged and failed before the social networking movement in the shape of LetsBuyIt.com who filed for bankruptcy in 2001 (DeKray 2010). The failure of LetsBuyIt.com can be seen from two sides; one adding further credence to the Internet gold rush of the late nineties (Constantinides & Fountain 2008), the other of demonstrating that this more interactive, social platform can create and sustain business outside of typical advertising funded models.

With the Web becoming more socially engaging, it does lead the author to draw a link between online world and the concept of social capital in the offline world. Social capital is understood to be ‘the ability of people to work together for a common purpose in groups and organisations’ (Coleman 1988). It is ‘a capability that arises from the prevalence of trust in a society’ (Fukuyama 1995), it supports interaction, engagement and cooperation with others. The idea of the Web becoming more of a social place – for cooperating, engaging and interacting – means the role of trust with regards to it becomes something that requires a greater understanding than currently exists within the literature.

This social networking movement is the ‘phase’ that the Web is currently at, whether this will change markedly or whether it will continue to immerse itself into other aspects of offline life is something that is yet to be seen. The author believes that – due to the prominence, dominance, mass appeal and shifting trends – the Web will continue to remain a social space for some considerable time to come. It is becoming increasingly intertwined with both the online and offline world of users. It is becoming an extension of one’s life rather than a separate entity altogether. Social capital, trust and cooperation are factors which are discussed in greater detail within the following chapter 3 (3.2.2)

2.4.6 SUMMARY OF WEB DEVELOPMENT

The author perceives there to be a common theme that runs through the history of Internet technology, and that is its relentless development. Whether it is from the early era of the Internet to the early nineties period of the Web, or the more recent shifts in wireless mobile accessibility and social networking, there has always been an expanding field of usefulness. The history shows an increasing applicability to users and non-users, as well as easier, faster and cheaper access, and in doing so has jointly become a commercially and socially important space that has – more so than ever – immersed itself within the daily lives of those within the developed parts of the world. Arguably it can be put forward that the online world and offline world are converging where each side can function to supplement the other.

2.5 WEB USES

Identifying the various types of Web use presents a challenge within itself due to the manner by which it is continually developing, continually adapting, continually creating new activities. However, adding further complexity to this is that the research surrounding Web use is typically focussed on a particular element or aspect of it and therefore most research usually ignores its variety (Amichai-Hamburger 2007). There are taxonomies of uses, of users, and studies that combine the two. As a result of this, a systematic literature review has been implemented in order to meet one of the research aims and identify the types of activities that the Web is used for.

2.5.1 SYSTEMATIC LITERATURE REVIEW (SLR)

Taking into consideration the work from Armitage & Keeble-Allen (2008) and Tranfield et al. (2003), the approach was followed that a systematic literature review encompasses the following four key stages:

- i) Formulate a review for the following research objective of *identifying the key aspects of Web use for social, domestic and pleasure*
- ii) Locate and generate a comprehensive list of relevant research studies using online journal and academic databases, specialist bibliographies, unpublished research, etc.
- iii) Select and evaluate relevant research studies using predetermined inclusion and exclusion criteria to assess their relevance to the research aim (criteria will be based on initial pilot searches).
 - a. Screen initially using title and abstract
 - b. Those included are further assessed (being included or excluded) based upon their content
- iv) Analysis and synthesis of the included works by effectively breaking down the paper, explore and integrate the studies to align with the research objective and finally reporting the results by extracting what is known and not known in relation to the research objective. In this case, this would be data related to Web and Internet use.

Each aspect was considered knowing that the intended outcome was to compile an up-to-date taxonomy of Web uses and Web users, which satisfies the objective of identifying the key aspects of Web use for social, domestic and pleasure. The systematic review procedure works as a guideline to ensure that the literature is structured appropriately, is approached systematically and is free from researcher bias. Although this undertaking is on a smaller scale than what would typically be expected, the respective objective has a respectively narrow focus and therefore the author supports the belief that a comprehensive outcome can be achieved with this approach.

2.5.1.1 SLR ADOPTED APPROACH

This subsection goes into detail of the five-stage SLR process as delineated above and in doing so, explains how the process was handled.

The initial phase was already established as it represented one of the research objectives of identifying the key aspects of Internet use for social, domestic and pleasure. The search terms of 'Internet use' and 'Web use' was applied to keep it relatively open and therefore extract the maximum number of articles with these keywords in the title, abstract, keywords or body.

With the search term defined (and due to the fast changing nature of the subject) relevant online databases were searched. Initially this began with a Google Scholar search, which then led to more detailed searches of

various other databases such as namely ACM, Computers in Human Behaviour, and Internet Computing. Due to the span of matching documents – everything from new media, paediatrics, psychology, adolescent health and advertising – the route was taken to adhere to results from Google Scholar.

The third stage can be viewed as a filter, in that by establishing criteria for the extracted results from stage 2, the works can be legitimately included or excluded before being reviewed in greater depth. Based on an initial pilot searches, the criteria was set down to filter databases from 1996 to present day. This start year was selected as 1996 was the point that much of the research relevant to categories of Internet use began to emerge. The significant majority of literature prior to this point were not only massively outdated, but more crucially they were concerned with the actual use of the Internet, as opposed to activities partaken in by users themselves. The earliest and most highly cited paper on Web uses was in published in 1996, and so this presented itself as a rational start point for the research to begin.

Inclusion criteria: articles that related to

- Web use (specific activities)
- Taxonomies of Web Use
- Web activities
- Internet use
- Taxonomies of Internet Use
- Internet activities

Exclusion criteria:

- Articles published before 1996
- Articles not related to search topic, for instance those concerned with categories of use, types of use or user types

The third stage represents one of the most crucial phases in the review process – filtering results based on the inclusion and exclusion criteria – as explained in the section above, the final articles had to meet the research scope.

The following process chart was adopted to support this phase.

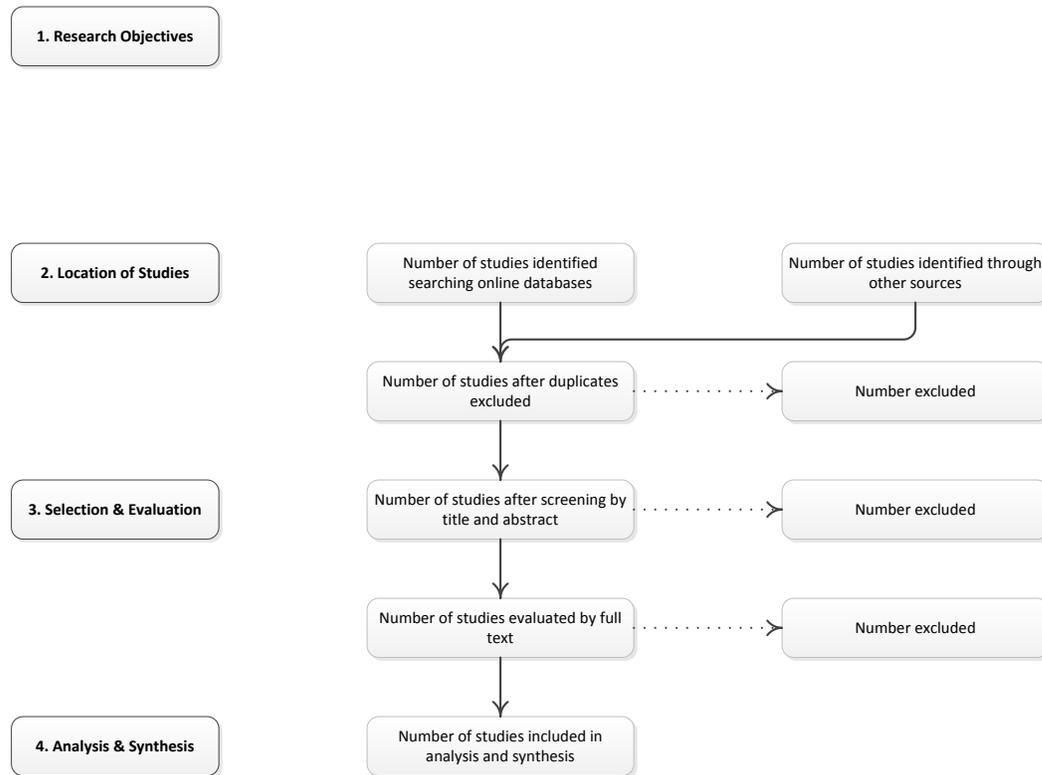


Figure 1: Systematic Literature Review Process

(Saunders, Lewis & Thornhill 2012)

The success of the fourth stage relies on the quality of the third stage. The relevant data was extracted by reading all of the included journals and documents and carrying across the elements that fell within the scope of the objective.

Due to the broad scope of the search terms, the initial database results that matched ran into the tens of thousands of almost entirely unrelated content. The time constraints of the thesis meant that these could not be analysed in great depth and were therefore discounted firstly on their title, the second phase was based on the abstract. Thirty seven articles were included, which were originally found using the search terms of ‘Web use’ or ‘Internet use’ from journals and conference proceedings.

Through the initial use of several key research papers, it was possible to start to build up a picture of categories of Web use. Although the central focus of the papers vary, they each share common characteristics of either utilising lists of Web activities or a combination of Web activities that lay beneath higher set of Web use categories. All of the included research journals were tailored in some way to a specific topic and not focussed purely on the uses of the Web; they were each found to be related to a wider field such as de-

mographics, personality, social capital, etc. The following is table is a breakdown of the specific elements of the articles that relate to the objective; Web uses.

Title	Results	Author(s)	Description
Internet use and the creation of a virtual democracy	4 User types 11 Web Uses	(Norris & Jones 1998)	<p>Norris and Jones (1998) established four basic types of user:</p> <ul style="list-style-type: none"> • Researchers – Web use was centred on work or study related activities • Home consumers – practical tasks, such as news, reviews, online shopping, hobbies • Political expressive – political information and discussions • Party-animal – gaming and seeking entertainment information <p>Underneath these four user types, there existed eleven, broad Web activities, all of which were of key interest to their study of user types (as opposed to an exhaustive list of Web uses).</p>
Internet use and personality	16 Web uses	(Hills & Argyle, 2003; Tosun & Lajunen, 2010)	<p>Sixteen Web uses within the Hills and Argyle (2003) paper, a paper which does not acknowledge – due to both its research focus and the fact that it is over a decade old – further uses such as social networking, music downloads, gambling and travel.</p> <p>Tosun & Lajunen (2010) use a two-layered – category and activity – approach, as used by various authors (Selwyn et al. 2005; Zhao 2006)</p>
Demographic and psychographic profile of heavy Internet use	6 User types 14 Web uses	(Assael 2005)	<p>Within the more recent work of Assael (2005), a neat demonstration of this two-layered approach is also used, distinguishing the user into six distinct categories:</p> <ul style="list-style-type: none"> • Web generalist – frequent email users, information seekers, online shoppers • Downloaders – downloading software or music • Self-improver – search for jobs, education, news, collect business information • Entertainment seeker – play games, seek to be entertained • Stock trader – make stock transactions • Socializer – participate in chat forums <p>Underneath the six user types within this study, there were fourteen specific Web uses such as purchasing goods, getting information on products, and downloading music to name but three.</p>
Internet use and status	11 Web uses	(Zillien & Hargittai 2009)	<p>Used a different approach that identifies eleven uses that are centred upon the 'higher-than-average consumer-orientated segment of the population'. Although the uses do provide some benefit within this case, the limitation applied to the study means that further works would be required.</p>

<p>Next Generation Users: The Internet and Britain 2011</p>	<p>4 User types 26 Web uses</p>	<p>(Dutton & Blank, 2011)</p>	<p>The Oxford Internet Institute used a similar approach of focussing on four main categories to sort between twenty-six Web uses.</p> <ul style="list-style-type: none"> • Information Seeking (6 Web uses) Local events, news, travel information, sports information, health information and job seeking • Entertainment and Leisure (6 Web uses) Listening to music, downloading music, playing games, uploading video or music, porn, gambling • Online Services (8 Web uses) Buying online, comparing products, making travel reservations, online banking, paying bills, selling items, buying groceries, investing in stocks • Creativity & Production (6 Web uses) Visit social networking sites, posting photos, instant messaging, emailing via lists, personal website, online blog
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Table 1: Systematic Literature Review Publications

Only five articles were finally selected based on their relevance to the scope of the research, and as implied previously each of these had a central focus away from purely Web use. The broad range of research results that initially matched the search terms essentially meant that that these works have been summarised around their ‘Web uses’ content, this was done in order to provide a comprehensive and concise review.

The review demonstrates how the Web has become increasingly embedded into modern society, continually adapting as Web user numbers increase. Much of the earlier research is concerned with issues such as the adoption and use of the Web and the ‘digital divide’ (Katz & Aspden 1997; Norris & Jones 1998; Shah, Kwak, et al. 2001) whereas the more recent research is focussed upon the behavioural and social impact of the Web, such as addiction (Ko et al, 2009), loneliness (Amichai-Hamburger & Ben-Artzi 2003), and social anxiety (Selfhout et al, 2009). Large parts of the literature are concerned with the user themselves, and tend to categorise the various ‘Web activities’ into groups (i.e. information seeking) based on either the types of user or the types of activity, which although useful in some capacity, proved to be of little significance as the objective was to provide a taxonomy of specific Web uses.

2.5.2 TAXONOMY OF WEB USE

The Taxonomy of Web activities below has been derived using the works of the various authors of Web research. The approach has been taken to create an amalgamated set of uses that aim to encompass the significant majority of participants’ activities when going online. A number of similar, but distinguishable activities have been headed under a logical single banner, for instance as opposed to using ‘blogs’ and ‘forums’ as two separate entities, the author has combined the two as the activities are comparable and this level of granular detail isn’t the core research focus. There are nineteen Web uses identified, fifteen of which have

emerged from the literature in Table 1 above. Four more recent uses have emerged through the use of the OxIS 2011 Report (Dutton & Blank, 2011) and acknowledging wider and more contemporary research:

- **Online dating** (Hitsch & Ariely 2010; Ellison et al. 2006)
- **Health information** (Anderson, 2011; Braun & Kitzinger, 2010)
- **Social networking** (Weaver & Morrison 2008; Westcott & Owen 2013)
- **Online gambling** (Brown 2006)

#	Activity	Reference
1.	News - <i>including politics, weather, general news, etc.</i>	Norris & Jones (1998); Hills & Argyle: (2003)
2.	Travel - <i>including directions, maps, address searches, etc.</i>	Norris & Jones (1998)
3.	Employment & Careers - <i>including seeking information on potential employment</i>	Katz & Aspden (1997)
4.	Product or Service Information - <i>research, searches, reviews, etc.</i>	Norris & Jones (1998)
5.	Health Information - <i>researching health specific information, symptoms, fitness, etc</i>	Dutton & Blank (2011) Anderson (2011)
6.	Blogs / Forums / Website - <i>termed as discussion boards in earlier research</i>	Norris & Jones (1998)
7.	Live Chat - <i>instant messaging, chat rooms, etc.</i>	Hills & Argyle: (2003); Amichai-Hamburger & Ben-Artzi (2003)
8.	Email - <i>Communicating socially, or with companies, organisations, etc</i>	Katz & Aspden (1997); Norris & Jones (1998)
9.	Social Networking - <i>Facebook, Twitter, MySpace, Instagram, Weibo, QQ, Google+</i>	Weaver & Morrison (2008); Westcott & Owen (2013); Dutton & Blank, (2011)
10.	Online Dating	Ellison, Heino, & Gibbs (2006); Hitsch & Ariely (2010)
11.	Special Interests / Hobbies - <i>following sports teams, results, etc.</i>	Katz & Aspden (1997)
12.	Games & Software - <i>playing and downloading</i>	Hamburger & Ben-Artzi (2000)
13.	Music - <i>downloading, playing, sharing, streaming, etc.</i>	Hamburger & Ben-Artzi (2000)
14.	Video / Movies - <i>downloading, streaming, sharing, watching clips, “catch-up” TV services</i>	Norris & Jones (1998); Hamburger & Ben-Artzi (2000)
15.	Adult material - <i>viewing, streaming, downloading</i>	Hamburger & Ben-Artzi (2000); Hills & Argyle (2003)
16.	Gambling - <i>bookmaker services, online poker, etc.</i>	Brown (2005); Dutton & Blank (2011)
17.	Random surfing	Hamburger & Ben-Artzi (2000); Hills & Argyle (2003)
18.	Shopping - <i>making purchases online, including auction</i>	Katz & Aspden (1997); Norris & Jones (1998); Hills & Argyle (2003)

19.	Banking & Finance - <i>banking, insurance, stock trading, paying bills</i>	Katz & Aspden (1997); Norris & Jones (1998); Hills & Argyle (2003)
20.	Government & Politics - <i>Interacting with Government, voting, online services, etc</i>	Dutton & Blank (2011)

Table 2: Taxonomy of Web Uses

2.6 STATUS OF CURRENT WEB USE

This section focuses on providing an impression of the current status of Web use in the English speaking parts of the developed world, and in doing so concentrates on elements such as activities, usage, access, trends, and demographics. The general outcome of this section is an illustration of how the Web has developed to become such an important – if not crucial – component in parts of the world in an incredibly short space of time.

The Oxford Internet Institute Surveys (OxIS) for the UK and the PEW Internet and American Life Project for the US are the two central works used for this section. Both of these represent some of the most comprehensive and current studies available today; both have been repeated over several years and both provide a neat demonstration into the shifting trends of Web use. The following subsection firstly uncover the detail of each of the UK and US studies, then draws parallels, showing there is a close relationship between how the UK and US make use of the Web and Web technologies in daily life.

2.6.1 UK WEB USE (OXFORD INTERNET SURVEYS (OXIS))

Of the UK studies, the two most recent OxIS (Oxford Internet Surveys) were used:

- **Next Generation Users:** The Internet and Britain 2011 Report (Dutton & Blank 2011)
- **Cultures of the Internet:** The Internet and Britain 2013 Report (Dutton et al., 2013)

Both of these OxIS reports form part of an on-going set of surveys into the Web use habits, trends, attitudes and demographics of the UK population. Although elements of the studies overlap, much of the core data is consistent but the analysis – the focus on next generation users, or cultures of the Internet – varies. These studies have been repeated every two years from 2003 to 2013. The number of respondents for the six surveys has been ranging from 2,013 to 2,657 with a response rate range of 47% to 68%. The benefit of implementing a longitudinal study across such a time period enables key insight to be gained with regards to how trends, attitudes, and usage has shifted and works to demonstrate clearly how the Web has become increasingly immersed into daily life. Due to the numbers of respondents involved, the levels of detail and the quality of the reports, these are the core reasons why the OxIS reports were considered suitable for this area of study.

Although the titles of both the OxIS reports may appear misaligned to one another – next generation users (2011) and cultures of the Internet (2013) – a significant portion of the content is consistent. The majority of the findings shown below are formed on the most recent study into Cultures of the Internet (2013). The interesting element to come from this later work is that as the Web has become a bigger part of society, there is the indication that there is a culture of types of Web users forming; which counters the rather basic early ideas of the Web space being occupied by ‘digital natives’ and ‘digital immigrants’ (Long 2005). It outlines ‘that the Internet is not inhabited by groups of enthusiasts or by Luddites’ (Dutton et al., 2013), it is more complex than the early ideas of there being a set of ‘digital natives’, those born with the Web already as a part of society.

Within the earlier OxIS 2011 report, an aspect that began to emerge was this idea of user types, which is something that in many ways aligns with the previously discussed Web functionality shift of Web 1.0 and Web 2.0. The study on the ‘Next-Generation Users’ brings forward the understanding that there are two types of user, the FGU (First-Generation User) and the NGU (Next-Generation User). Although age can be a factor that separates the two, it is not the key-determining element, as the difference is established from ‘how’ the users interact with the Web. The study implies that it is something that is greatly influenced by household income and education and is more complex than this idea of ‘digital natives’ and ‘digital immigrants’.

User Type	Description
FGU (first-generation user)	<p>More likely to have seen the Web emerge from the mid to late nineties. This type of user is more accustomed to the Web as a broadcast entity, rather than this idea of being malleable and shaped by users.</p> <p>FGU’s are more than likely to have fewer devices for accessing the Web, and therefore their interaction is modelled in a more restricted way, such as in a block of time, and their use of the Web would be largely for efficiency benefits, as opposed to social or entertainment uses.</p>
NGU (next-generation user)	<p>NGU (Next Generation User) defined as people who both (1) use at least two applications on their mobile phone and (2) own at least two of the following: tablet, e-reader, three or more computers.</p> <p>More than likely to have grown up or have adapted more toward the Web 2.0 platform, and their patterns of use would differ in terms of how they access and what they access the Web for.</p>

Table 3: User Types (OxIS 2011 Study)

In several ways, the 2011 work brings together some of the ideas presented by other research and this idea that the personality of the users shapes much of their Web behaviour (Amichai-Hamburger & Vinitzky, 2010; Correa, Hinsley, & de Zúñiga, 2010). The latter 2013 report, ‘Cultures of the Internet’ directs its focus on the overlapping concept of attitudes toward the Web from users, and builds further on the impact of

personality. It explains that because of how the Web has impacted society, to expect that users can be neatly categorised into two boxes ignores the complexity of humans. The study presents the idea that there are effectively five main Internet cultures, which although overlap in places, are a more accurate indication of what would be found in reality.

Culture	Description
e-Mersives	Comfortable and naturally at home in the online world and happy being online
Techno-pragmatists	Use the Internet to save time and make their lives easier
Cyber-savvy	Mixed feelings and beliefs about the Internet, holding somewhat ambivalent views
Cyber-moderates	View the Internet as a good place to pass time, and efficient way to find information is shop, or a good way to maintain and enhance their social relationships.
Adigitals	Does not feel that the Internet makes them more efficient, nor do they enjoy being online simple to pass the time of escape from the real world.

Table 4: Cultures of Web User (OxIS 2013 Study)

These reports provide not only a detailed insight into the means and methods that users take to access the Web, but also imply that user attitudes play an important role into how the Web is used and what it is used for. Neither the 2011 or 2013 OxIS look into the detail of how these attitudes are formed – as the nature of the study is not centred on this – but do make the connection between household income, education and Web cultures.

2.6.2 US WEB USE (PEW INTERNET & AMERICAN LIFE PROJECT)

Similar to the OxIS work, the PEW Internet and American Life Project is a set of repeated studies that research into Web use, trends, attitudes, etc of the US population. There is once central work within the PEW range of studies – Generations Online 2010 report (Zickuhr, 2010) – but ten narrower and more recent surveys that have also been analysed alongside to bring the whole research up to date. The ten further PEW Internet reports are listed below:

- **Social Media Update** (Duggan & Smith, 2013b)
- **Tablet and E-Reader Ownership Update** (Rainie & Smith 2013)
- **Home Broadband 2013** (Zickuhr & Smith, 2013)
- **Cell Internet Use 2013** (Duggan & Smith 2013)
- **Anonymity, Privacy, and Security Online** (Rainie et al. 2013)
- **Older Adults and Technology Use** (Smith 2014)
- **Teens and Technology Use 2013** (Madden et al. 2013)
- **Who's Not Online and Why** (Zickuhr, 2013)
- **Online Video 2013** (Purcell 2013)
- **Cell Phone Activities 2013** (Duggan, 2013)

Although the specific approaches, categories used and levels of detail demanded by the PEW surveys differ from those of the UK and OxIS study, the number of respondents of the main study (Generations Online 2010) remains comparable at 2,252.

There are key differences between parts of the research focus and the overall approaches used when considering the UK (OxIS) and US (PEW) studies. The PEW works are detailed and repeated works much like the UK equivalent but the central weakness of the reports is the lack of depth, particularly with regards to demographics. Within the PEW reports there is little to no data gathered or presented that brings into account income levels, education, employment, etc of the users interviewed, and therefore it is not possible to see what influence such elements would have.

In addition, a further criticism of the PEW reports – all of eleven of the reports used – is the means by which they carry the presumption that age predetermines and shapes their Web use, therefore still aligning to the ideas of digital natives and digital immigrants. The OxIS studies looks at ‘lifestages’ (students, employed, retired), whereas the PEW studies as they divide users based on six ‘age groups’ (18-33, 34-45, 46-55, etc) and bases its findings around these groups. The reports do provide some level of insight, but the depth and level of detail between the US and UK reports vary significantly. Put bluntly, the PEW reports do not allow for the diversity of the users – their background or demographics – to correlate to their patterns of Web use and merely base the findings on age alone.

2.6.3 WEB USE IN THE WESTERN DEVELOPED WORLD

Despite the limitations and the fact that both the UK and US studies are independently designed, focussed, implemented and reported, links can still be drawn on enough levels to provide a robust impression of the habits of the developed parts of the English speaking world. Interestingly, there are many similarities that can be drawn between the two, but the OxIS reports stand alone in that they also provide more insight into the *why* aspect as to merely reporting the *what*. The following subsections elucidate on the similarities that can be drawn between the nature of UK and US usage, which can to some extent, be generalizable across the movements within much of the developed parts of the world.

2.6.3.1 USE & NON-USE

In terms of use and non-use of the Web, the studies show comparable results between the UK and US with over $\frac{3}{4}$ of the population having access to the Web. Of the non-users (18% UK and 15% US), the majority explain their reasons for not using the Web as ‘lack of relevance’ to their lives, and ex-Web users suggesting that finding the Web too difficult to use as the principle reason for their non-use. The OxIS report explains

that trust in the reliability of information on the Web has changed very little in the last ten years, and non-users and ex-users being the biggest supporters in favour of increased government regulation on the Internet.

2.6.3.2 CONNECTIVITY

In both countries, the home represented the main place from which the Web is accessed, with the majority of UK users accessing wirelessly at 91% (59% in the US). Equal numbers of the population in both countries, 91%, have mobile phones with over half (52% UK and 59% US) using them to access the Web. The PEW report into Cell Internet Use (Duggan & Smith, 2013a) made the point that (unlike broadband) those more likely to use cell phones to access the Web are young, non-whites with lower incomes and less education. Across both countries, mobile access, tablet access and video calling are increasing, search engine use is showing slight decline and blogging is decreasing across all groups. Social networking however is stabilising (61% UK and 71% US) with the OxIS report suggesting that ‘now that social networking has become part of popular culture, there is a possibility that those who are not using it are making a deliberate choice not to do so’. Both studies can be interpreted as suggesting that social networking used of the Web has come close to saturation point.

2.6.3.3 DEMOGRAPHICS

In both instances, the higher the income and the higher the level of educational achievement has a noticeable influence on Web use and access to the Web in terms of devices. The OxIS report makes the statement that ‘the young, wealthy and the well-educated continue to be the most engaged online. The elderly, the retired and the poorly educated tend to be the least likely to use it’. Across both reports, the younger age groups tend to be the heaviest and most active Web users, with the wealthiest and most educated being at the top of all groups also.

2.6.3.4 OVERALL

Although the US studies are lacking in terms of their ability to make tangible connections between shifting trends and demographic data, there are general elements that can be compared to the OxIS reports. The level of depth varies markedly between the UK and US reports, but large parts of the statistical data can be utilised and therefore parallels can be drawn. The central difference between the approaches is that the OxIS reports gather additional data in terms of education and household income, and therefore the shifting trends of Web use can be cross compared to these other elements. The PEW studies do not go – or in some instances, mention but do not show (Duggan & Smith, 2013a; Duggan, 2013) – this additional data, and therefore the same connections to *the reasons why* cannot be made. The most startling aspect to come

from the reports is how closely matched the two countries are in terms of accessing the Web as well as the use and non-use of the Web. The most notable similarities being home broadband penetration, the stabilisation of social networking, increasing mobile and tablet Web access and the overall presence of the digital divide (higher incomes, better educated the most likely to be online).

Taking the OxIS findings, pulling in the elements that the US studies allude to, and bringing in the ideas of the digital divide to the forefront, the author supports the idea that a digital divide remains. Regardless of the divide – be it the original digital divide, focussed on access to the technology or the secondary digital divide concerned with usage – the fact remains that the greater the household income, the greater the amount of educational attainment, then the greater the amount of *benefit* that will be derived from the use of the Web. Although these studies point out that vast groups within society now have access to the Web, it is these latter groups – the wealthier, the wiser and the younger – that use the Web in different ways using different devices for different purposes. These users receive more *benefit* from the Web which is accredited to *how* they use it, not simply *that* they use it (Dutton et al., 2013). Access in itself is no longer the issue.

The works of Tosun & Lajunen (2010) shows that personality has a strong impact upon the activities that a user partakes in online. The distinction is made through this work that it is not whether or not people use the Web, but more importantly how they use the Web. Personality traits are likely to impact upon whether they user uses the Web as an extension of their social world, or – in the case of neuroticism – whether it is used as a substitute to the real world. Shah, Nojin Kwak, et al. (2001) support the idea that *how* not *if* or *how long* the Internet is used for that affects social capital. They draw the understanding with the use of television; it is how it is used, not the duration of use that influences users' impressions of it.

Parallels can be drawn between the ideas of personality – in terms of social capital – and Web use. High-levels of social capital – this idea of holding a natural sense of trust in others – increases cooperation, social engagement and reduces the perception of risk, amongst other things. Applying this to the Web would effectively mean that the more *trusting* the user, the lower their perception of risk and the increase in the likelihood for them to engage in different, wider activities, therefore creating a more rounded and robust online experience. It is this aspect of experience that leads to greater benefits and further possibilities (Dutton et al., 2013) – the same as the 'virtues of social capital' offline. The more the user engages the more benefit they can (potentially) receive, often with a lesser effort (Riegelsberger, Sasse & McCarthy 2007).

Social capital can be perceived in one way as representing an attitude toward trust, and the idea of an 'attitude toward trust' is something which isn't created online, it is created offline. As the studies into Web usage show, household income and education have a strong influence, in much the same way that they have a strong influence in terms of social capital and trust (Fukuyama 1995; Uslaner 2002) in the offline world.

2.7 SUMMARY

As recently as 1998, the verdict was still out as to whether the Internet would change the lives of the average citizen as much as the telephone did in the 1950s and 1960s (Kraut et al. 1998). However its impact has been unprecedented; a factor that can be easily understood when we measure the impact of the Web on society and on the economy (Odlyzko 2000). Much research has attempted to trace the effect, but the impact is too extensive to summarise shortly (Choi 2010).

This thesis argues that the Web has become what it has not purely due to the capability of the technology alone, but more crucially due to the construct of trust and social capital. The initial adoption, success and continued growth of the Web can be viewed as resting on two key shifts – eCommerce and Web 2.0. ‘Trust has been identified as the key to eCommerce because it is crucial whenever uncertainty and interdependence exists’ (Yousafzai, Pallister, & Foxall, 2009). And as trust is a tool for decision-making in a situation of risk (Siegrist, Gutscher, & Earle, 2005), eCommerce in all its guises, product, services, advertising, searches, etc., is understood to be built on it (Blanchard et al., 2011; Cugelman, Dawes, & Thelwall, 2009; David Gefen et al., 2008; Kim, Ferrin, & Rao, 2008; Mcknight & Chervany, 2002). Therefore, understanding the relationship between the two is vital.

However, the author recognises that trust is not only crucial to supporting eCommerce, as all other elements of the Web require users to take risks, to engage, to interact, and to cooperate both socially and commercially. Trust is recognised as the factor that facilitates this engagement (Coleman 1988), cooperation (Putnam 1993) and this ability to overcome risk (Fukuyama 1995), and it is these aspects that make the Web what it is. Taking this into account, it becomes evident that the construct of trust is not merely important to the development and success of the Web – it is crucial. The incredible growth in social networking demonstrates that as a space, it is about much more than overcoming the perceived risks associated with purchasing a product or using an online bank account. It has become just as vital a place to find information, a place to stay in contact, a place to share interests, a place to seek entertainment.

As touched upon in the previous section (Chapter 2.6.3.4), and as evidenced in the OxIS and PEW reports, a difference in attitude is what it takes to make people engage, cooperate and take risks, and it is these aspects that have made – and will continue to make – the Web what it is. This attitude is linked to trust, and – as will be explained in Chapter 3 – the more people trust, the more open they are toward risks and therefore toward the Web. It is for this reason that offline elements such as personality, culture and more importantly, social capital, are both incredibly influential and therefore incredibly important.

Trust, whether taken alone or in specific association with eCommerce is an incredibly complex topic. It has been investigated in various fields of science, such as philosophy and computer science (Massa 2007;

Hussain et al. 2006), and yet, there is no agreement about the definition and properties of trust...as it not only depends on the context and the research field (Bahtiyar & Çağlayan 2012), but it is a subject that is commonly misunderstood, rife with confusion (Mayer et al. 1995) and typically taken for granted (Connolly 2007). Despite the challenge of defining trust, its importance and relevance to the Web and, in turn the importance of the Web on societies in both developed and emerging nations, demands that a better understanding must exist. It cannot simply be taken as given – as it is in much of the literature (Castaldo et al. 2010; Connolly 2007; Luhmann 1990) that the Web relies on trust without being able to understand what trust is, or what trust is to the Web.

The following Chapter researches into the construct of trust from a core concept perspective, it works to outline the complexities involved with the topic with the overall intention of developing a comprehensive understanding of trust and why it is vital to modern society.

3 TRUST

The trust literature is not only broad and varied, but is predominantly concerned with wider topics that are related to trust, as opposed to being focussed upon trust as a core concept. Trust is often regarded as an important concept for understanding economic, financial, organisational, and social activities (Arrow 1974; Putnam 1993; Guiso et al 2009; McEvily et al. 2003; Knack & Keefer 1997) and as such is understood to be multidisciplinary field (McKnight et al. 2002). Despite consensus on the importance of trust, there is less agreement across the social sciences on how it should be defined (McEvily et al. 2012). ‘Most researchers have defined trust according to their specific disciplinary worldview’ (McKnight et al. 2002), which understandably creates complexity as its definition would depend on the context and the research field within which it is viewed from (Bahtiyar & Çağlayan 2012). These complexities have arguably led to a position where there is no agreed consensus on the definition of trust (Andaleeb 1992; McAllister 1995). And although the importance of trust has been acknowledged within much of the literature, the matter of how it develops and functions has received little systematic theoretical attention. ‘Much insight has been given to the richness of the concept; however there is still considerable confusion’ (Nooteboom 2003) as ‘we know much better what trust does than what trust is’ (Castaldo et al. 2010).

Put into relatively straightforward terms, Siegrist et al. (2005) explains that trust is seen as a tool for decision-making in a situation of risk. Although simplistic, this definition embraces the core concepts within trust, and it facilitates recognition of why ‘in almost trivial ways the most basic activities of everyday life would become impossible without trust’ (Warren 1999).

3.1 ISSUES IN DEFINING TRUST

Developing on the understanding that there is broad consensus on the importance of trust, but no agreement among social scientists on how to conceptualise it (Cvetkovich and Löfstedt, 1999), this section works to shed light on how this position became – and continues to be – the status quo. The author carries the view that much of the understanding and complexity issues that are associated with the concept arise due to:

- i) The interdisciplinary nature of trust
- ii) Trust being a social construct
- iii) Reification within the literature

This section explores these three points in more detail.

3.1.1 INTERDISCIPLINARY NATURE OF TRUST

The interdisciplinary nature of trust creates complexity, as its definition depends on the context and the research field from which it is being considered (Bahtiyar & Çağlayan 2012). The concept of trust has been investigated in various fields of science, such as philosophy and computer science (Massa 2007; Hussain et al. 2006). However, it is of interest to many further disciplines; for instance within psychology, trust is considered in an interpersonal context (McEvily et al. 2012). Within business, trust is focussed on the commercial supply chain (Li et al. 2012), the consumer relationship (Walsh & Mitchell 2010) and is seen as being ‘paramount for product acceptance, a good working atmosphere, smooth relationships with local government, investment criteria, and so on’ (García-Marzá 2005). ‘Trust is also widely recognised as a strategic, relational asset for business organisations’ (Castaldo et al. 2010). Overall, it is relevant to most management disciplines (Rousseau & Sitkin 1998).

‘Trust tends to be studied within specific fields but not across fields, and different fields focus on different parts of the concept’ (Corritore et al. 2001). Therefore, it would be plausible to expect that what trust represents would not only vary depending on the research field, but furthermore vary depending on the part of the concept that is the focus of the research. The thesis attempts to address this complexity by researching the core concept of trust, taking into account the work of philosophers and social theorists in order to develop a thorough understanding of it.

3.1.2 TRUST AS A SOCIAL CONSTRUCT

Within the social sciences, trust is recognised as a social psychological construct due to – amongst other things – this link between the concept of trust and the ideas behind human behaviour. Tajfel and Fraser (1978) explain that social psychology has a different ‘slant’ than psychology, as it is focussed on analysing and understanding human *social* behaviour. The aim is to study, as systematically as possible, the aspects of the interaction between individuals, between and within social groups, and between individuals and social systems of which they are a part. When considered from this viewpoint, it is challenging to produce any perspective that is not in some way relevant to the field of social sciences. These interactions – people, groups, social systems – effectively encapsulate the vast majority of, if not, all human interactions.

A ‘construct’ is another word for a complex psychological concept; an idea, a part of what makes us human, that is made up of lots of smaller ideas. Berger & Luckmann (1966) identify that social construction concerns itself with the ways in which individuals and groups take part in ‘constructing’ their own version of reality. The construction of reality is – as the name would suggest – about objects of knowledge that are not given by nature, but are ‘created’ by society. It is also understood to be an on-going process, one typically in

flux and therefore what these objects represent – objects such as justice, intelligence, aggression etc. – is subject to change through time and generations (Marsh et al. 1980).

These ‘ideas’ aren’t inevitable or determined by the nature of things; they are decided by society, derived and maintained through social interaction (Hacking 1999). Trust fits neatly into the premise that it is a concept or practice that is the construct of a particular group, it isn’t something that occurs within nature but one that is developed between individuals or groups of individuals; trust isn’t something that is naturally occurring. Although appearing relatively abstract, the implications of this are that trust is subject to cultural and social disparities. As it isn’t determined by nature, it therefore isn’t expected to be found in all individuals and nor is it expected to be consistent between individuals either.

This label of trust being seen as a social construct is a challenging factor to dispute, particularly when the wider research into trust is considered. Upon acknowledging the work on trust from several prominent authors – namely Uslaner (1999), Fukuyama (1995), Offe (1999), Putnam (1993) – the characteristics of it being a socially constructed become immediately apparent. Although some refrain from applying the ‘social psychological construct’ label directly, they each support the notion that trust is developed between individuals (or groups of individuals) and not by nature, comes in different forms, and differs dependant on factors such culture, religion and society.

3.1.3 REIFICATION

The final and more interesting point regarding the challenge in defining trust is something labelled as ‘reification’. This is whereby a construct may, for example, have been continuously adapted to fit the need of successive research papers, thus losing its original conceptual domain and increasing the range of construct interpretations (Lane et al. 2006).

As Castaldo et al. (2010) presents it, ‘trust scholars may underestimate the risk or over-trusting trust by using the word “trust” without necessarily controlling for content validity, while taking the construct’s face validity for granted’. When combining this to the broad spectrum of interdisciplinary trust research, it becomes understandable how confusion not only originates, but how it is further compounded.

3.1.4 SUMMARY

It can be logical to expect that much of the confusion surrounding the construct of trust is generated from the simple fact that it is a social construct. As a construct, what it represents would not only vary depending on the researcher’s perspective, but would also change over time. As trust is multidisciplinary and pervasive,

the angle and purpose for which it is being studied will also uncover different meanings and understandings, thus adding an additional layer. The literature explains ‘empirical research in this area is beset by conflicting conceptualizations of the trust construct, inadequate understanding of the relationships between trust, its antecedents and consequents’ (Grabner-Kräuter & Kaluscha 2003).

For the task of gaining a comprehensive understanding of trust, not only does the perspective need to be clearly established, but furthermore an analysis of *what trust does* has to be understood as well as establishing the situations of relevance. The author subscribes to the notion that ‘there is no general and accepted definition of trust’ (Andaleeb 1992; McAllister 1995) but that isn’t to say it cannot be understood within a given context.

3.2 UNDERSTANDING TRUST

This chapter directs attention on understanding ‘what trust does’ in order to address the question of ‘what trust is’, as trust...tends to be somewhat like a combination of the weather and motherhood; it is widely talked about, and it is widely assumed to be good...but when it comes to specifying just what it means, vagueness creeps in (Porter, Lawler & Hackman 1975).

As there is no agreed consensus on a definition of trust, the research focus will be placed on the most prominent trust literature in order to identify the characteristics of trust – the elements that work to describe the concept, its purpose, its role, and its implications. Using literature from philosophers and social scientists, the author is directing this focus upon the core concept of trust; the purpose of which is to show a firm lineage of the views and concepts that are evident within the field. This understanding of trust is then applied it to an IS context. One of the central point that emerged early within this analysis is the prevalence of the idea that trust is – and still largely remains – a subject that is not only taken for granted, but is one that is never the main topic of research (Luhmann 1990).

The author believes that the breadth and depth of the trust topic is the reason as to why the literature works to provide a comprehensive insight and analysis of trust, rather than the common approach of presenting a clear and succinct definition. Attempting to draw parallels between the research literature and from a consensus of views is where the challenge really exists. The literature shows that there are several closely related concepts and constructs surrounding trust which become apparent, in part, due to both the interdisciplinary nature of trust, and due also to the lack of consensus on a definition of trust. None of these works provide a complete analysis of the overall trust construct as each has its own specific focus; yet they still provide detailed insight and perspectives that, when combined with the wider literature, enable a robust understanding of trust to emerge. Although the works are notable within the arena of trust and are applicable to the

field of information systems, they predominately approach the topic from the contexts of philosophy, political science and sociology.

The literature explains that trust is seen as a tool for decision-making in a situation of risk (Siegrist et al. 2005) and is concerned with cooperation of known or unknown others (Putnam 1993; Fukuyama 1995). Trust is focussed with overcoming risk (McKnight et al. 2002) and is in effect ‘the belief that others can be relied upon’ (Siegrist et al. 2005). ‘Trust is viewed as a mechanism whereby potentially beneficial exchanges can occur while overcoming the presence of moral hazard’ (McEvily et al. 2012). This idea of beneficial exchanges is challenged within the works of Fukuyama (1995) who sees trust as being about positive outcomes, not merely direct or predictable exchanges. It is the expectation that one will find what is expected, and not what is feared (Deutsch 1973). Trust is considered of incredible importance to society through the notion of cooperation, when people trust they interact and they do so to solve common problems (Uslaner & Conley 2003). Ultimately, trust is seen as an attitude, and therefore like an attitude it will vary amongst individuals and will be shaped and influenced by personal experiences and social factors.

Although the above presents some of the characteristics and contentions surrounding the ideas of trust, much more needs to be acknowledged in order to form a coherent and comprehensive understanding, and this is the role of the following work. It is for this reason that this subsection is ordered in the following way, with the initial focus being on extracting the understanding of trust from the literature, leading to an analysis of the related elements of trust and following with research into the various types of trust that exist. The chapter that follows takes the research into trust, confidence and risk and provides coherent definitions along with meeting the research aims of modelling the constructs as processes (specifically in Chapter 4.2).

3.2.1 RESEARCHING TRUST

Gambetta (1990) sees trust as a belief; it is a particular expectation we have with regards to the likely behaviour of others. And although earlier work within the field presents the this idea that ‘we have little idea of how individuals actually acquire beliefs’ (Binmore & Dasgupta 1986), a central component within the work of Fukuyama (1995) is based on the ideas of how trust is formed within society and, more importantly the impact its presence can have in the form of social capital (Section 3.2.2.4.3)

Gambetta (1990) presents a definition of trust as being a particular level of the subjective probability with which an agent (a trustor) assesses that another agent or group of agents (trustee(s)) will perform a particular action, both *before* he can monitor such action (or independently of his capacity ever to be able to monitor it) and in a context in which it affects his own action. Or, as he later describes it, ‘when we say we trust someone or that someone is trustworthy, we implicitly mean that the probability that he will perform an action that is beneficial or at least not detrimental to us is high enough for us to consider engaging in some

form of cooperation with him'. There is agreement on these ideas, for instance Misztal (1996) views trust as...to hold some expectations about something future or contingents or to have some belief as to how another person will perform on some future occasion. To trust is to believe that the results of somebody's intended action will be appropriate from our point of view. Put more clearly, when a trustor *trusts* a trustee, trust is granted on the basis of a positive expectation, in essence that the trusted party (trustee(s)) will act in the way the trusting party (trustor) has expected them to act, and the decision to trust is based on their own perceptions of the trustee and the situation overall. A large component of trust is that it involves the difficult task of assessing another person's capacity for the action; this is what Mayer et al. (1995) recognises as the perception of trustworthiness (See section 3.3.2 for perceptions of trustworthiness)

Barber (1993) explains that when we trust, we effectively 'trust in the intentions of others not to cheat us, and in their knowledge and skill to perform adequately over and above their intentions'. Trust is a tentative and intrinsically fragile response to our ignorance, a way of coping with the limits of our foresight' (Shklar 1984). What is being acknowledged here is a consensus on Luhmann's (1990) premise of trust, that trust is viewed as tool for the reduction of complexity, for if we could be blessed with the unlimited computational ability to map out all possible contingencies in enforceable contracts, trust would not be a problem (Dasgupta 1990; Lorenz 1990). As Fukuyama (1995) points out, trust is used as it is not rational for people to be 'rational' about every single choice they make in life, if this were true, their lives would be consumed in decisions over the smallest matters.

A key point that distinguishes trust from other comparable decision-making constructs, such as familiarity, cooperation, confidence, etc (Section 3.2.2.3.2) is the understanding that 'for trust to be relevant, there must be the possibility of exit, betrayal, defection' (Gambetta 1990). Within a trust situation, the trusted agent (trustee) has the freedom to disappoint our expectations, and as such, not only is trust more generally defined as a device for coping with the freedom of others (Luhmann 1979; Dunn 1984), but trust cannot exist without this inherent presence of risk. Trust can be said to be based on belief that the person, who has a degree of freedom to disappoint our expectations, will meet our obligation under all circumstances over which they have control (akin to Gambetta (1990); Luhmann (1979); Mayer et al. (1995); Fukuyama (1995)). Control presents itself as a distinguishing component of the trust construct, as within a trust situation, trustors have no control, no guarantees, no safeguards, just a belief and expectation which means that risk and vulnerability are present and required factors.

Adding to this is the understanding that 'trust is a peculiar belief predicated not on evidence but on a lack on contrary evidence – a feature that makes it vulnerable to destruction' (Pagden 1990). As trust is extended on a belief and sense of expectation, it has an inherent risk and element of doubt, and as Hume (1970) points out, doubt is far more insidious than certainty; distrust may become the source of its own evidence and in the case of failure, the outcome is never being trusted again. The notion exists that when trust fails to

yield the positive expectation upon which it was granted, the trustor would never extend trust to that trustee again (this differs from confidence as it explained in section 3.2.2.3.2). Although we are willing to forgive mistakes or unintended consequences, the intended betrayal of our trust is an issue of enormous pain or distrust, and furthermore when the outcome is disappointment of expectation, the trustor attributes this internally in the form of regret (as opposed to assigning it to chance or probability as is in the case of confidence 3.2.2.3) (Misztal 1996; Luhmann 1990)

As implied, there is a strong link between trust and risk (which is explained more in more detail in section 3.2.2.2). Trust requires previous engagement on your part, as it presupposes a situation of risk – it requires the person involved (trustor) to ‘see’ a risk before trust can be called for, and the knowledge of this risk being *a risk* comes from elements such as familiarity, past experience, behaviours, etc. However, the trustor can avoid taking the risk, but only if they are willing to waiver the associated advantages that can arise from a positive outcome. Avoiding the risk means to withhold trust, which in turn means to eliminate the chances of a positive expectation as there would be no interaction. A lack of trust leads to a withdrawal from activities and therefore reduces the range of possibilities for rational action (Fukuyama 1995).

A trust situation is also one where the damage caused by a negative outcome is typically greater than the advantage you originally seek (Deutsch, 1958), otherwise the decision to trust would be reduced to a question of rational calculation. Because of this, the perception of risk would be heightened when an individual lacks trust, and as a result no action would be taken; trust would not be granted or extended for the purposes of avoiding the risk. This heightened perception of risk is a key component that links the ideas of trust and the health of a society as recognised under the term of social capital (see Section 3.2.2.4)

Although much of the Misztal (1996) work into trust shares consensus with Gambetta (1990), Luhmann (1990) and Mayer et al. (1995) there is a strong criticism whereby the concept of trust is misunderstood when it is applied to the social context. The author disagrees with Misztal’s (1996) statement that ‘trust as an expectation of stability of social context (one trusts that the train timetable will be the same tomorrow) refers to the predictable rather than the cooperative character of social order’. The points of contention within this are with this perception of trust and a sense of predictability, and secondly this perception of trust and a distinct lack of risk. The ‘train timetable’ example has no consideration for risk, and as illustrated within the earlier sections, and as Blanchard et al. (2011) states, risk is necessary for trust to exist. The second criticism centres on the idea of predictability, as a known outcome cannot be considered a risk, even if the outcome is fatal as there is no aspect of uncertainty (Holton 2004) (See Risk section 3.2.2.2). Misztal (1996) further underplays the importance of trust through the view that ‘trust seems to play a strong role in any relationship where each partner has clear expectations of the other, and where there is a time lapse between the exchange of goods or services’. We find issue with this element as it goes against the ideas of Uslaner (2002) and arguably makes light of the need for trust and the role it provides to society, he makes

the point that trust is between people, but more importantly establishes the idea that trust doesn't depend on reciprocity, i.e. a direct exchange. There is also the aspect of time and its relationship with the construct of trust – trust cannot be as simple as a direct exchange as it takes considerable time to develop and become established. There is a link between this and the understanding behind friendship, 'the expression of benevolence, being nice for the sake of it without any expectation of reward' (Westcott & Owen 2013). Uslander (2002) pushes forward the view that trustors are not simply paying back good deeds, or as Fukuyama (1995) outlines it, trust is not about narrow self-interest. Within the Misztal (1996) work there is the acknowledgement of risk, in that it is stated that 'trust always involves an element of risk', but there is little emphasis put on how crucial this actually is.

Giddens (1990) approaches trust in a similar manner to Fukuyama (1995) and Putnam (1993) by considering it from a societal perspective. He separates trust in modernity into the three separate types of trust; i) trust in persons; ii) trust in institutional personal lives and iii) trust in abstract systems. He implies that the work of Luhmann (1979) is too simplistic. In differentiating between trust and confidence (see 3.2.2.3.2), Luhmann (1979) outlines that contemplating alternatives is a situation underwritten by a trust decision, whereas a confidence situation is one whereby there is no alternative option. Giddens (1990) counters this and explains that contemplation of alternatives doesn't immediately make a situation as one governed by trust. He carries the notion that within modernity, trust in its various forms is what makes aspects of daily life work, which although carries some weight, this understanding downplays the concept. Giddens (1990) views trust as representing something routine, a day-to-day part of life, not a "leap to commitment", not necessarily a conscious act and finally that it can be held in abstract systems, but this is a perception that Adams (2005), Offe (1999), Gambetta (1990) Luhmann (1990) and Siegrist et al. (2005b) would firmly recognise as confidence.

Within a trust scenario, there are inherent aspects that are required for trust to be recognised as trust (see 3.3.3.1) and it is for these reasons why the author fails to adhere to the views of Misztal (1996) and Giddens (1990) as within their works the concept of trust is undersold. There is little to no consideration for the characteristics of trust, this inherent need for risk, the sense of reciprocity, that it isn't a requirement for direct exchange, that it involves a conscious assessment of trustworthiness (Mayer et al. 1995) and ultimately can only exist between people (Seligman 1997). The literature shows that the Misztal (1996) and Giddens (1990) work are not unique with regards to misunderstanding, misrepresenting or underselling the complexity involved within the concept of trust as this is, in part, the reason as to why there is a lack of consensus on an agreed definition as explained within the introduction of this chapter.

The next subsection sheds light onto the concepts that relate to trust, such as familiarity, confidence, risk, etc; this is followed by research into the types of trust and finally a summary to draw an understanding of trust.

3.2.2 ELEMENTS RELATED TO TRUST

It has been mentioned in the earlier subsection (understanding trust 3.2) there are other concepts and constructs that are strongly associated with trust, with some being misrepresented as being trust within the literature, i.e. trust as a form of confidence (Zand 1972; Hosmer 1995; Lewicki et al. 1998). The purpose of this section is to illustrate the core differences between and related elements and in doing so explaining what it is that links them together.

3.2.2.1 FAMILIARITY & COOPERATION

The problem of trust according to Seligman (1997) is understanding what it is and how do we distinguish it between the similar terms of faith and confidence, as these carry different valences (i.e. different emotions) and refer to arguably different types of social phenomena. He outlines that trust isn't faith, as faith removes this idea of social action, which correlates to the points put forward by Gambetta (1990) that trust is ultimately about taking action. Seligman (1997) also explains that trust isn't confidence as confidence is about reliability and predictability, which counters the perception of Misztal (1996), but supports others by recognising that trust is about situations that cannot be predicted or relied upon as these have little to no inherent risk (Gambetta 1990; Adams 2005). A further point regarding trust, which helps to distinguish it from other constructs such as familiarity or cooperation, is that within trust the rational persons seek evidence for their beliefs (Lorenz 1990), which is due, in part to the levels of vulnerability and risk involved within a trust situation, such as the trustee's freedom to defect (Gambetta 1990), his freedom, his disturbing potential for diverse action (Luhmann 1979). This 'evidence seeking' is termed by Mayer et al (1995) as an assessment of trustworthiness, and trustworthiness is not something than can be produced at will – it cannot be coerced and it cannot be promised in the sense of a guaranteed assurance as this in itself kills trust (Misztal 1996).

Although there is an overlap between the terms of trust and familiarity, it must be known that in spite of them sharing similar traits, they are by no means the same thing. Familiarity is an unavoidable fact of life, whereas trust is a solution to a specific problem of risk. Fukuyama (1995) carries the view that personal development and experience play a key role in the formation of trust, a factor which is also undoubtedly linked to the concept of familiar / unfamiliar, and it is these similarities that sometimes work to blur the differences.

Miztal (1996) explains that trust is essential for relationships, for cooperation, for exchanges and necessary for everyday interaction, 'cooperation is seen as a by-product of trust rather than a source of trust and a lack of cooperation can be a result of other factors, such as lack of sufficient information, rather than an absence of trust'. Fukuyama (1995) shares consensus with Gambetta (1990), Luhmann (1990) and Uslaner (2002), in that he understands that trust is not the same thing as cooperation, and that trust is not necessary for coop-

eration. ‘Enlightened self-interest, together with legal mechanisms like contracts can compensate for an absence of trust and allow strangers jointly to create an organisation that will work for a common purpose’, but this in itself is not trust. We are effectively making that point that trust, cooperation and familiarity share similarities in the sense that they facilitate interaction and create an ability for people to work together, however decisions based on familiarity or cooperation are not the same as those based on trust – the risks, contingencies and circumstances that are inherent to a trust decision are what differentiates it from anything else.

3.2.2.2 RISK

The relationship between risk and trust is of key importance as risk is a necessary component of trust (Luhmann 1979; Gambetta; 1988; Sztompka 1999). Interestingly, risk shares an incredible number of characteristics with that of trust, not merely what it represents, but its implications, foundations and the fact that both are social constructs. Risk is embedded in the “social fabric” as the sociologist James Short (1984) calls it as ‘risk and safety are not objective conditions “out there” simply waiting to be perceived by citizens or calculated by professional risk analysts’ (Stallings 1990), they are socially constructed.

The ‘meaning of “risk” has always been fraught with confusion and controversy’ (Fischhoff et al. 1984). The Oxford English Dictionary defines risk as being exposure to the possibility of loss, injury, or other adverse or unwelcome circumstance; a chance or situation involving such a possibility. Taking the use of the phrase, ‘adverse or unwelcome circumstance’ it becomes clear why risk is understood to be a social construct (Bartesaghi et al. 2012) as it is purely an internal calculation of external conditions that creates risk, and therefore can be highly subjective (Kogan and Wallach 1967). Risk is a result of social and cultural development, how individuals view and understand it depends on their experiences, development, culture and lifestyle (Fukuyama 1995; Putnam 1993; Hofstede 1980). The distinction depends on our ability to differentiate between dangers and risks, whether they are considered to be remote or a matter of immediate concern. The impression of the possibility of incurring a disappointing outcome would – amongst other factors – depend on your own previously experienced behaviours.

Risk can only emerge only as a component of decision and action, so if you refrain from action, you effectively run no risk. A decision of inaction remains a decision and this choice of taking no action would typically house an inherent – although often smaller – risk. Akin to cooperation and familiarity, risk is a general feature of life and, not only is it that decisions cannot always avoid risk, but decisions based on trust cannot avoid risk as it is an integral component of what makes trust ‘trust’. ‘The awareness of risk is a familiar aspect of everyday life, and trust is bestowed as your own risk’ (Short 1984).

A trust decision involves risk in both the forms of uncertainty and exposure, and from acknowledging this it becomes understandable as to why the notion is carried that – when trust is extended – the individual must care about the outcome of the event in order to consider and accept the risk. This also works to explain the rationale as to why trust cannot hold a sense of predictability, as a predictable outcome cannot be deemed as a risk, even if the outcome is fatal (Holton 2004). A known outcome – irrespective of its nature or severity – has no element of ‘uncertainty’, and so it is not a risk; as explained if there is no risk, it cannot be a decision based on trust. Taking the above into consideration, the definition of risk can be labelled as:

Risk Definition: Risk is exposure to a proposition of which one is uncertain, it is characterised by the importance of outcome to the individual involved and requires both exposure and uncertainty (adapted from Holton 2004).

3.2.2.3 CONFIDENCE

Deutsch (1960) views trust as an individuals’ confidence in the intentions and capabilities of a relationship partner, and the belief that a relationship partner would behave as one hoped. Castaldo et al. (2010) also explains that trust can be defined in terms of confidence in, or reliance on some event, process or person. Within much of the literature, confidence is implicitly synonymous with trust (Zand 1972; Hosmer 1995; Lewicki et al. 1998) and although both the Deutsch (1960) and Castaldo et al. (2010) definitions of trust correlate to the understanding of trust – as discussed in the earlier sections – the author views the use of the term ‘confidence’ as being misinformed.

The role of this section is to not only form an understanding of confidence, but more crucially to identify and illustrate the means by which it differs from trust. The author agrees with much of literature that although they are comparable constructs, they are separate entities and thus, should not be used as interchangeable terms (Luhmann 1990; Gambetta 1990 Misztal 1996; Uslaner 2002).

In line with trust and risk, confidence is also a social construct, and so not only is what it represents subjective, but is also dependent on and shaped and influenced by the impressions of society. From acknowledging the trust literature, it doesn’t take long to recognise the parallels between both concepts, which go some distance to shed light on the reason as to why they are commonly viewed as being different labels for the same construct.

3.2.2.3.1 TRUST & CONFIDENCE

The arguable outcome of trust and confidence sharing many similarities and overlapping heavily is the common misconception that they are the same construct entirely, Yamagishi & Yamagishi (1994) acknowledge a difference and in doing so, concisely explain that ‘confidence is expectation of competence,

and trust is expectation of goodwill and benign intent'. Misztal (1996) adds to this by stating that the degree of certainty we attach the outcomes is what separates trust from confidence. In a very straightforward way, this represents the ethos underlying each. They both refer to expectations that may result in disappointment...but the most normal situation is confidence 'you are confident that your expectations will not be disappointed' (Luhmann 1990). Confidence is a process that is more customary and habitual in nature (Fukuyama 1995; Misztal 1996) and is based upon a very specific referent, usually linked to familiarity, past experience or measures of protection (Adams 2005).

An understanding of this gives further insight into situations and circumstances where such decision-making tools would be employed. Knowing decisions of confidence are customary and habitual, would therefore not only limit its applicability to particular situations or circumstances that carry these qualities, but furthermore exclude it from other scenarios that demand more. Within a confidence situation, it is not uncommon to expect a decision to be made without a conscious consideration toward potential consequences, whereby the decision is driven by habit (Chiu et al. 2012). We neglect consciously considering many confidence decisions as the possibility of disappointment is not only rare (which moves them away from being trust driven) but more crucially because we don't know what else to do. The alternative to confidence is to live in a state of permanent uncertainty and to withdraw expectations without having anything to replace them with (Luhmann 1990).

This viewpoint means the required 'leap of faith' (Adams 2005) or 'belief' (Gambetta 1990) needed within a trust situation is not required in a confidence situation as a positive outcome is not only expected but would typically be predictable. This acknowledgement of predictability supports the notion of confidence decisions being made in a habitual fashion. Confidence has a very specific reason based judgement related to the probability of a specific event occurring, when a decision can be made on past behaviour rather than personal risk or uncertainly, then it is confidence (Adams 2005; Luhmann 1990). One of the defining attributes of trust is that although it is granted on positive expectations, it also houses an uncertainty of outcome that heightens the presence of risk, as there can be no measures of protection within trust. This is part of the reason why trust is seen as 'taking a leap of faith'.

Situations where risk can be mitigated against – via protection measures, guarantees, enforceable sanctions, contracts, litigation, etc – are those that are 'handled' by the construct of confidence, not trust. The risks within a trust decision cannot be mitigated against as it ceases to be a risk, ceases to be a belief, and ceases to be a 'leap of faith'.

Another point that separates confidence and trust is the resulting behaviour when a situations or a set of circumstances fall short of the 'positive expectation' that these decisions are granted upon. Through his work titled 'how can we trust our fellow citizen?' Offe (1999) illustrates that one of the fundamental dispari-

ties is that when a trust situation breaks down, the reaction is one of regret, and the conscious and very deliberate decision is made to discontinue this 'trust relationship'. The approach with confidence is one of disappointment with the breakdown being attributed to bad luck, chance, or providence, but not oneself and therefore the 'relationship' isn't considered to be beyond repair. Within confidence, disappointment is attributed to external factors, whereas with a trust situation it is attributed internally by the trustor (taken personally), hence come the premise that once trust is broken, it can never be repaired (Gefen et al. 2008; Cofta 2006). Deutsch (1962), tells us that a trust situation is one in which the penalty (disutility) one suffers if the other abuses that vulnerability is greater than the benefit (utility) one gains if the other does not abuse that vulnerability. This is why with trust, the damage caused by disappointment may be greater than the potential advantage being gained (Luhmann 1990).

'Another notion from which trust is to be differentiated is confidence or reliance as the latter notion does not essentially involve imputing of intention; they [confidence or reliance] lend themselves more readily to the subjective probability approach. I may rely on, or have confidence in something (a bridge for example), or in someone' (Hardin 2004). Trust, in contrast, relates only to people (Ullman-Margalit 2004; Uslaner 1999; Hardin 2004) and can only exist between people, as they are the only units capable of reciprocity (Offe 1999). This argument is both logical and highly controversial in that it is effectively stating that the use of the term *trust* to identify any process outside of an interpersonal situation – i.e. trust in organisations, trust in government, trust in objects – is effectively wrong. Confidence would be the logical term to be used in such situations as there is no requirement for reciprocity and furthermore, the outcomes – such as is with the use of an object – are expected and predicable (Seligman 1997). Something that the construct of trust cannot support as it is not what trust is about.

3.2.2.3.2 SUMMARISING TRUST & CONFIDENCE

The key distinctions between trust and confidence are these: 'Trust involves risk and vulnerability, it is important when familiarity is low. Confidence, on the other hand, is based on high levels of familiarity' (Siegrist et al. 2005). The objects of trust are persons (or person-like entities), whereas confidence can be had in just about anything (Hamilton & Sherman 1996; Ullmann-Margalit 2004; Seligman 1997; Offe 1999; Warren 1999). Confidence is much more 'clean-cut' as the risks involved are either non-existent, minor, or can be mitigated against by protection measures such as guarantees, contracts, enforcement of sanctions, safety nets, arbitration, etc. This redundancy of risk supports the premise that confidence can be truly habitual to the extent that it becomes almost automatic. The expectation can be based on experience, familiarity, predictability – further supporting the habitual nature – which, when coupled with mitigated or lack of risk, supports cooperation, reduces complexity, allows society to function and has the potential to provide benefit akin to the virtues of social capital (Section 3.2.2.4.1).

Seligman (1997) carries the notion that systems are confidence driven and that exchange relationships are essentially familiarity driven and not formed by trust; he also pushes the idea that confidence is what drives society, what other authors consider to be a form of trust (Uslaner 2002; Fukuyama 1995). He outlines the distinctions between trust and confidence, and, in a similar fashion to that of Luhmann (1979; 1990), explains that both are modes of reducing complexity – keeping chaos at bay. The generalised expectation that the other will handle his freedom, his disturbing potential for diverse action, in keeping with his personality – or rather, in keeping with the personality which he has presented and made socially visible. Trust is what exists between people whereas confidence can be held between people, but also it is what is held in governments, institutions, society, etc as there is an element of predictability with confidence and – as Lewis and Weigert (1985) outline – trust starts where prediction ends. Seligman (1997) adheres to the Luhmann (1990) view of trust and confidence in that ‘trust remains vital in interpersonal relations, but participation in functional systems like the economy or politics is no longer a matter of personal relation, therefore it requires confidence and not trust’. Seligman (1997) does not stick to the idea that trust is in persons and confidence is held in institutions, he points out that ‘institutions are in fact nothing but patterned, mutually enforcing role expectations’. However, this is an idea that can be challenged with the work of Offe (1999) who explains that trust involves reciprocity in the sense that the trustee is aware that trust has been extended towards them and their behaviour will be coloured by this knowledge – something that institutions cannot replicate. Luhmann (1990) adds that if the trusting act were to be dependent upon the play of reciprocity, an exchange, or rational expectation of such, it would not be an act of trust at all, but an act predicated on confidence. This aligns to the previously mentioned concept of friendship and the expression of benevolence (Westcott & Owen 2013).

The author supports the central ideas of Seligman (1997), apart for his point regarding trust in institutions (mentioned above) as this fails to hold up when wider considerations and peculiarities of trust are considered, such as the point of reciprocal awareness (Offe 1999), benevolence (Schoorman et al. 2007; Mayer et al. 1995), and the idea of having the possibility for exit, betrayal or defection (Gambetta 1990), the lack of predictability (Lewis & Weigert 1985). Arguably, these things are not typically witnessed in institutions as they cannot be aware of having trust held in them, they do not typically have a disturbing potential for divergence and they are – to some extent – predictable and reliable.

In summary, trust is significantly more complex and cannot be presented as black-and-white as confidence; relies on many more elements than confidence and has a distinct lack of information inherent to it; is only attributable between people or people-like entities (those with freedom of choice i.e. animals); can only exist in a situation of risk or vulnerability, one where there are no guarantees or safety nets; and one where regret and a complete breakdown of cooperation is formed when a negative outcome is reached. In acknowledging this, it would be legitimate to suggest that all other comparable situations that fail to hold these attributes of risk, vulnerability, etc, are handled by the construct of confidence.

Confidence Definition: *The belief that certain future events will occur as expected and is characterised by specific reason based judgement on experience, evidence, familiarity, measures of protection (adapted from Siegrist et al. 2005).*

3.2.2.4 SOCIAL CAPITAL

‘The term social capital has gained popularity during the last half dozen years. The origins of this popularity can perhaps be traced back to the writings of the US sociologists as Robert Putnam and Francis Fukuyama’ (Syrjänen & Kuutti 2004). ‘Social capital is a capability that arises from the prevalence of trust in a society’ (Fukuyama 1995). Coleman (1988) recognises it as ‘the ability of people to work together for common purposes in groups and organisations’. Putnam (1993) understands it as the ‘features of social organisation, such as networks, norms, and trust that facilitate coordination and cooperation for mutual benefit’. Huysman and Wulf (2004) view it as referring ‘to network ties of goodwill, mutual support, shared language, shared normal, social trust, and a sense of mutual obligation that people can derive value from’. Although these definitions are useful, they shed little light upon the concept itself and more importantly, the importance of the concept. However, difficult to ignore from these definitions is the similarities it shares with the concept of trust – specifically generalised trust (as discussed in 3.2.3.1.2) – and the connections to culture.

3.2.2.4.1 IMPORTANCE OF SOCIAL CAPITAL

In addition to human skills and knowledge (referred to as ‘human capital’ (Becker 1975)), people’s ability to associate with each other is not only critical to economic life, but to virtually every other aspect of social existence as well. Environments with high social capital – the ability of people to work together for a common purpose in groups and organisations (Coleman 1988)– lead to more successful societies that are wealthier, wiser and oddly enough, healthier (Cohen et al. 1997; Knack & Keefer 1997; Triandis et al. 1988).

Discussed more in depth in the following subsection (Section 3.2.3.1) are two forms of trust, the concept of generalised trust and the concept of particularised trust. Generalised trust is the equivalent of an individual or society that houses high levels of trust and optimism, and results in having an accepting and rational view of risk. Particularised trust is underpinned by low levels of trust and an attitude of pessimism, which results in individuals carrying the ‘default’ response whereby the perception of risk is heightened and considered to be highly probable as opposed to being acceptable or unlikely.

Generalised trust leads to social capital; ‘only people who can trust widely can produce social capital...and particularised trust will be inimical to it’ (Uslaner 1999). Although social capital is seen as the product of a society that is high in generalised trust, there is also the understanding that social capital can be a fundamen-

tal component that influences an individuals' disposition to trust. As Putnam (1993) explains, a society high in social capital is one that is more likely to take a risk, therefore increasing the chances of harvesting a more prosperous, successful and wiser society – these are the virtues of social capital.

Fukuyama (1995) points out that a thriving civil society depends on people's habits, customs, ethical attributes that are shaped by culture. His view sticks to the notion that a strong and stable family structure and durable social institutions can work to create this, but this is something that cannot be legislated into existence in the same way a government can create a central bank or an army. His argument about trust is that within society, trust is about supporting one another, not for an exchange or reward. This is an attitude that is only developed by culture, which is formed not on the back of explicit rules and regulations, but out of a set of ethical habits and reciprocal moral obligations internalised by each of the members. These rules or habits give members of the community grounds for trusting one another (and is not based on narrow self-interest). Uslaner (2002) outlines that it takes more than merely being engaged within society to produce trust, it is about this idea of bridge building with different groups within society and not just bonding with likeminded others (Section 3.2.3.3).

Social capital is this ability of people to cooperate and work together, it is built on trust and therefore trust can bring with it large economic value. Fukuyama (1995) illustrates this point by outlining that the decline of trust and sociability has led to a rise in violent crime, civil litigation and the breakdown of family life within American society. This is the economic cost, as more capital is required for policing, prisons, litigation, all of which create barriers to cooperation. As economic life is deeply embedded in social life, it cannot be understood apart from the customs, morals, and habits of the society in which it occurs. It cannot be divorced from culture (Muller 1993).

It is identified that society needs trust, as it is a starting point for the derivation of rules for proper conduct, or for ways of acting successfully by reducing complexity in a given social system (Luhmann 1990). The most effective organisations are based on communities of shared ethical values, therefore creating a society that requires fewer contracts, less legal regulation, and overall a reduction in complexity as prior moral consensus gives members of the group a basis for mutual trust (Fukuyama 1995). It allows society to function in a more efficient, collaborative and collective manner (Burt 1992). Social capital operates similarly to trust in terms of reducing complexity and facilitating interaction. 'People who do not trust one another (societies with little or no social capital) will end up cooperating only under a system of formal rules and regulations, which have to be negotiated, agreed to, litigated, and enforced, sometimes by coercive means' (Fukuyama 1995). Such elements not only hinder cooperation, but also significantly increase transaction costs, which correlates to how a lack of trust within society manifests into higher transaction costs.

3.2.2.4.2 CHALLENGES OF SOCIAL CAPITAL

Trust is the expectation that arises within a community of regular, honest, and cooperative behaviour, based on commonly shared norms, on the part of other members of that community (Durkheim 1984). Since communities depend on trust, and trust is in turn, culturally determined, it follows that spontaneous communities will emerge in differing degrees in different cultures. This is one of the central challenges in the development of social capital, the understanding that the group has to adopt common norms as a whole before trust can be generalised amongst its members – it cannot be generated by an individual acting on their own as it is based on the prevalence of social, rather than individual virtues. It takes an incredible amount of time to establish, as it requires a culture to form, a culture made up of shared ethical norms and values that are prevalent enough to become habitual amongst society or groups within society.

Humans are shaped and influenced by culture, and people are typically embedded in a variety of social groups against whose interests they have to balance their own, i.e. families, neighbourhoods, networks, businesses, churches, and nations (Granovetter 1985). ‘The most important variable is not industrial policy per se, but culture’ (Fukuyama 1995). The most effective organisations (and indeed societies) are based on shared ethical values. It is through this that the understanding emerges that individuals acting alone cannot deliver social capital as it is based on the prevalence of social, rather than individual qualities (Coleman 1988).

Many contributors support the idea that high levels of social capital have positive effects on the sharing of knowledge and expertise, on community building and the development of creativity (Huysman & Wulf 2004; Fukuyama 1995; Putnam 1993; Uslaner 1999); however there is also evidence of dysfunctional behaviour resultant of such tight-knit societies. High levels of social capital can also create problems, as Portes (1998) explains, it creates restrictions on autonomy and individuality resulting from the need to conform; puts restrictions on those that do not belong to the network, or a lack of awareness concerning changes outside of the network (Cohen & Prusak 2001), irrational economic behaviour due to personal aversion or a feeling of solidarity toward partners in the network (Portes & Sensenbrenner 1993), a dependency on central actors and their loyalty towards the network (Uzzi 1997).

As it is built upon the foundations of generalised trust (Section 3.2.3.1.2), it is influenced and shaped by the same factors and much wider, social factors besides. One of the classic examples is television news reporting. Negative and sensationalised news is understood to damage the social capital of a country or region within a country, as news organisations are one of the most significant actors involved in the social construction of risk (Stallings 1990; Gamson & Modigliana 1989; Short 1984). Televised political cynicism as well as the rise in twenty-four news channels, and their relentless quest for ‘breaking news’ has further continued to reduce the social fabric of North American (Hart 2012; Arneil 2010). Selective, unrepresentative and damaging news reports have the capacity to increase the perception of risk and danger within society;

with it comes the ability to impact social capital in that it reduces peoples' willingness to trust strangers, which fuels particularised trust and with it, fuels the creation of an insular society with its inherent, pessimistic world view and restrictive economic development (Fukuyama 1995; Luhmann 1990)

3.2.2.4.3 SOCIAL CAPITAL & TRUST

An individuals' disposition to trust is created, impacted and influenced by an array of factors (Section 3.3.1), and the author supports the understanding that social capital is a fundamental and influential component of this. A society high in social capital is one that has a more rational and accepting view of risk, which therefore increases the chances of harvesting the virtues of social capital, this premise of a more prosperous, successful and wiser society.

'Scholarly research largely converges on the argument that trust is of paramount importance to drive economic agents towards mutually satisfactory, fair and ethically compliant behaviours' (Castaldo et al. 2010). It reduces the complexity for individuals whilst providing them with a sense of security by allowing them to take for granted most of the relationships upon which they depend (Warren 1999). It means that people share the idea that others can generally be trusted, as opposed to thinking that people will always try to cheat us. It is understood that generalised trust leads to social capital and enables society to function as it facilitates cooperation (Offe 1999; Uslaner 1999; Fukuyama 1995).

The author supports the view that 'social capital' is the term applied to the wider, social benefits that can be realised from a society that is built on a sense of generalised trust. Some sociologists take the view that social capital can be viewed almost as a commodity, 'like all forms of capital, social capital is accumulated labour' (Huysman and Wulf 2004), but it must be understood that this – intangible – capital cannot form or accumulate without the type of culture that develops generalised trust. The same rules of pessimism and optimism, and more importantly, personal wealth relate directly to social capital in the sense that, for those individuals with less, even a small loss can be costly (Offe 1999) and those with greater amounts are more likely to take risks as the overall result of a negative outcome is affordable (Uslaner 1999).

Luhmann (1990) makes the connection that economic equality within society can lead to a sense of optimism, and so has the capacity to influence generalised trust – cooperating with unknown others, reducing the impression of risk and in turn, positively impacting upon social capital. The rationale behind this comes from the understanding that economic equality gives the impression that the members of the society each have a fair chance in life and the sense that they are in control of their own destiny. The outcome of this combines to create a sense of generalised trust, stronger bonds between different groups of society, which then can create social capital. The alternative is also supported, that economic inequality – i.e. large gap between the poorest and richest in society – fuels pessimism, self-interest and creates particularised trust with-

in society. ‘Those at the top and bottom of society don’t consider each other as a part of their ‘moral community...they do not perceive to share the same fate with others in society’ (Luhmann 1990). The outcome, trust declines as people become more concerned about narrow self-interest which is the antithesis of trust, reducing social capital and – theoretically at least – creating the capacity to reduce social order (Misztal 1996).

These ideas are why it is seen that ‘social capital is the crucible of trust and the health of an economy, rests on cultural roots’ (Fukuyama 1995). Trust in society can produce virtues of social capital, creating a wealthier (Knack & Keefer 1997), healthier (Cohen et al. 1997) and a better educated society (Triandis et al. 1988). However, it must be recognised that trust is between people, and that mere civic engagement isn’t enough to create trust within society (see Section 3.2.3.3.1).

As implied within the above, the literature recognises that trust comes in different forms, and the role of the following section is to provide a deeper analysis into these types of trust and uncover what implications it then has.

3.2.3 FORMS OF TRUST

In the trust literature, there are various types or various forms of trust that have been outlined and labelled depending on their characteristics and how they manifest within personal and social situations. Essentially, the various ways of how an individual possessed and uses trust. For example, Uslaner (2002) discusses two types of trust, moralistic trust and strategic trust, Fukuyama (1995) talks about familiarised societies and self-interest societies, which correlates to what Yamagishi & Yamagishi (1994) refer to as generalised trust and particularised trust. There are also strong parallels connecting the types of trust and the ideas of how a sense of optimism and pessimism work within societies, how they relate to trust and how they influence the development of social capital (Rosenberg 1956; Coleman 1990; Misztal 1996; Uslaner 2002).

The role of this section is to discuss the viewpoints in an attempt to draw a consensus on the types of trust that exist and how they add to the understanding of trust. The author carries the belief that much of the work into the ‘types of trust’ are heavily overlapped within the ideas of generalised and particularised trust as explained in the works of Yamigishi and Yamigishi (1994) and Fukuyama (1995). This section begins by providing analysis into these types, which then works to shed light on the other viewpoints that exist within the surrounding literature, and in doing so illustrates the overlaps and similarities that are apparent.

3.2.3.1 PARTICULARISED & GENERALISED TRUST

3.2.3.1.1 PARTICULARISED TRUST

Particularised trust, or self-interest, as it termed as by Fukuyama (1995) refers to individuals that only associate with others of a distinctly similar disposition, whether this happens to be based on culture, religion, background, family, race, etc. Societies and groups within society that instil particularised trust tend to not only associate with, and trust implicitly, those of similar disposition, but refuse to extend any form of trust to those outside of this scope. Uslaner (2002) recognises this as the idea of ‘bonding’ within society, as explained in section 3.2.3.3.1. Particularised trust is also recognised as a society or individual that holds a culture of collectivism, whereby there is an emphasis on group boundary, with preferential treatment extended to in-group members (Triandis et al. 1988). Ultimately, it is the situation whereby trust is extended only to those of similar disposition – be it based on race, religion, nationality, culture, age, or personality, etc – and those outside of this group would be viewed sceptically as a default reaction, for the simple reason of being outside of the group / different.

The implications of particularised trust are immense when applied to economic development. Particularised trust is comparable to animal behaviour in that ‘animals trust one another and rely on one another, however they only do this for their own species...but for us humans to prosper we cannot take the narrow animal view of only trusting our direct relation / communities’ (Uslaner 1999). This form of trust is underpinned by a natural aversion to risk and can easily stifle the ability of creating social capital as it limits cooperation to a narrow, select group. Particularised trust isn’t about ‘bridge building’ within society, this notion of cooperating with different groups within society, it’s about ‘bonding’ with likeminded others only, if at all.

Particularised trust hinders economic development and prosperity as the availability of all the elements that drive an economy, such as funding, skills, sharing knowledge, support, etc have a ceiling, it as it can only be maximised based on what is available within this specific group (Fukuyama 1995). Putnam (1993) explains the implications of particularised and generalised trust within Italian society, through his study on the different types of trust held between north and south, and how it has led to the creation of a more economically developed “industrious north” and an underdeveloped “agricultural south”. The culture of particularised trust in the south has, amongst other things, restricted growth, cooperation and impacted in the belief of democracy. ‘Particularised trust often seems to be the most rational strategy for those who see the risks of putting too much faith in strangers. But ultimately it is a self-defeating strategy...though one that is tough to extract yourself from’ (Uslaner 1999). Generalised trust – that which is present in the “industrious north” – for those who can afford the risk, undergirds the attitudes that produce cooperation and prosperity (Putman 1993). ‘When people only trust people like themselves, at best they might become hermits isolated from civic society, at worst they might reinforce prejudices against strangers when they interact only with people like themselves’ (Levi 1996). We often have more faith in people like ourselves as they share our

values and may protect us from being exploited by “alien” groups, but it is tough to prosper when you aren’t willing to take risks (Greif 1993; Uslaner 1999). If we only socialise with people like ourselves, we will not have the opportunity to get to know those from different backgrounds. If knowing a person leads to trusting them, we will not develop faith in people unlike ourselves. Having this confidence in others is an essential part of what is termed as social capital, leading to widespread cooperation and the economic and social benefits that can derive from this (Putman 1993, Uslaner & Conley 2003).

3.2.3.1.2 GENERALISED TRUST

Generalised trust supports cooperation between strangers and not just between individuals of a comparable disposition. Generalised trust stretches through to wider society and carries a close association to the personality trait of optimism (Putman 1993; Fukuyama 1995; Uslaner 1999; Uslaner & Conley 2003).

The positive implications of a society or individual that hold a sense of generalised trust is recognised as extending far beyond one that is ‘limited’ by particularised trust and its inherent risk-averse nature. Generalised trust facilitates social capital, it fuels cooperation, makes us more comfortable with strangers and more willing to put our trust where we might otherwise not tread (Fukuyama 1995). It is this idea of bridge building within society (Section 3.2.3.3.2). A study has also found that ‘a resident of a country with higher generalised trust and breadth of formal organisational memberships was more likely to perceive entrepreneurial opportunities’ (Kwon & Arenius 2010). Within generalised trust, risks are viewed more positively, in the sense that they are considered in a more rational light, rather than as a default negative as would be the case with particularised trust. Risks are more likely to be accepted and taken, which increases the possibility of the resulting benefits occurring.

Uslaner (1999) and Luhmann (1990) see trust as moral resource, effectively meaning that individuals downplay bad experiences and cooperate even when we are not sure others will oblige. They explain that in parts it operates similar to the role of familiarity (Siegrist et al. 2005), as people rely on their experiences updating their expectations of others’ behaviour from their interaction with others. It is through these factors of familiarity and previous experience how trust can be seen as a tool for cost-saving (Offe: 1999), it reduces the complexity in decision-making when risks are involved (Cofta 2006; Gefen 2000). Another link comes from the understanding that trust is also dependant on and coloured by economic circumstances; those with more are seen to typically trust more as the impact of any loss is expected to be less harmful, making them more likely to extend trust and more likely to carry an optimistic world view (Fukuyama 1995).

Particularised trust and generalised trust relate and overlap with the premise of pessimism and optimism, which collectively influence the forms of trust that people hold. These ideas are pulled together and explained within the next section, disposition to trust (3.3.1)

3.2.3.2 MORALISTIC & STRATEGIC TRUST

3.2.3.2.1 MORALISTIC TRUST

The 2002 work of Uslaner presents two types of trust, moralistic trust and strategic trust, each of which manifests in different ways, and has different contingencies and different outcomes. One key thing that separates this work from others is that these types of trust are recognised in the light of generalised and particularised trust, as opposed to being a different term applied to the same meaning.

The notion of moralistic trust is, on the surface at least, comparable to the concept of generalised trust as discussed by Fukuyama (1995), Offe (1999) Schoorman et al. (2007); Mayer et al. (1995). The central point is the understanding that moralistic trust is similar, but not identical to generalised trust, and that it is more important that the typical form, whereby trust is as a response to the trustworthy behaviour of others. Moralistic trust allows for a faith to be held in unknown others and carries the idea to treat people as if they were trustworthy. It binds us together, in that it makes people more tolerant; makes people provide support; makes people more charitable; makes people work together to support economic growth. He concurs with Gambetta (1990) in that they both explain that people who think that others will take advantage of them are almost certain to distrust others, and those that believe others will not try to take advantage of us and are more likely to take risks.

Generalised trust is shaped by life experiences but moralistic trust is not (Uslaner 2002), and the author cannot wholeheartedly support this distinction for moralistic trust. The rationale being that if it were not shaped by life experiences, this would equate to moralistic trust being akin to blind trust. However, he counters this and claims that ‘it is foolish to trust all of the people, all of the time. Moralistic trust doesn’t demand that. But it does presume that we trust most people under most circumstances’. This is the basic premise of generalised trust as understood by McEvily et al. (2012) and Fukuyama (1995) as well as by Uslaner (1999) in earlier work. The author’s view of the distinction between moralistic trust and generalised trust is arguable and provides little to no further contribution to the understanding of how trust works within society.

3.2.3.2.2 STRATEGIC TRUST

The alternative to moralistic trust is ‘strategic trust’, which aligns closely to this idea of bonding with those within societies that are of a similar disposition and so also correlated to the premise of particularised trust. He presents the notion that strategic trust is the situation whereby an individual would only trust another for some specific purpose such as an exchange, but for nothing outside of this. This is viewed as a disposition of pessimism, which again, further parallels to the concept of particularised trust within the works of Yamagishi & Yamagishi (1994).

3.2.3.3 BONDING & BRIDGE BUILDING

3.2.3.3.1 BONDING

A central component of this subsection was to take the work of Putnam (1993) and his notion that membership to organisations or a civic association creates trust, then working to clarify it further. Uslaner (2002) explains that this idea is too simplistic, and it must be recognised that trust within society cannot be formed by merely being a member of a group. He adds to this by explaining that bonding (to those with a shared interest) and bridge building (across to those without any commonalities or shared interest) produces different outcomes. Bonding has the capacity – theoretically at least – to create trust, but seldom does, and the latter – bridge building – is the element that creates trust within a society and has the capacity to make people more tolerant toward minorities, etc. Bonding with those of a similar ilk and/or shared interest provides the platform to produce an environment of particularised trust (Yamagishi & Yamagishi 1994; Grönlund & Setälä 2011; Kwon & Arenius 2010), which Uslaner (2002) refers to as strategic trust, and leads to trusting others only when the need to is rife – such as an exchange relation.

3.2.3.3.2 BRIDGE BUILDING

This is the understanding – as touched upon in earlier sections – of how trust operates within society, the idea whereby individuals cooperate with other groups within society outside of their own. The work points out that bridge building is what generates trust within society and is what facilitates the creation of social capital. Bridge building is not just about cooperating, it is about cooperating with known or unknown others outside of a typical group, be it different minorities, race, religion, etc. Upon recognising this, it becomes apparent the similarities that this concept shares with generalised trust.

3.2.3.4 FORMS OF TRUST: SUMMARY

Trust matters (like friendship Westcott & Owen (2013)) for the sorts of things that bond us to others without the expectation of reciprocity – giving to charity, volunteering time, tolerance of minorities, and promoting policies that restrict resources from the rich to the poor'. Economic equality produces optimism as those within society feel that each has a fair opportunity to succeed, therefore (theoretically) leads to the development of a trusting attitude. Economic inequality has the capacity to compound pessimism and distrust – a factor typically found within corrupt societies (Uslaner 1999). Optimism can produce foundation for trust as it shifts the perception of risk and can, as a result, increase the likelihood of 'bridge building' within society.

Optimism leads to generalised trust, which promotes civic activism, which creates a prosperous community, leading to increasing optimism. Pessimistic people trust only their own kind. They withdraw from participa-

tion in the larger society, and they never get the benefits of risk-taking and it mostly leads to people withdrawing from civic life. They don't prosper and their pessimism becomes more deep seated (Uslaner 1999; 2002). The connection can be made that optimism is deeply correlated with the ideas of generalised trust and the development of social capital within society, equally as much as pessimism is linked to risk-aversion and the ideas around particularised trust. Although the terminology varies within the literature, the characteristics of each type or form of trust described within the earlier sections remain largely consistent.

Pulling the works together, the author sees that there are two types of trust that individuals and societies adopt – a disposition of generalised trust or a disposition of particularised trust. The disposition, or propensity to trust, as it is termed by Mayer et al (1995), is essentially in reference to the individuals and / or societies attitude toward trust, what sense of trust they hold and the implications it has on decision-making and society. The implications of each are immense, especially in terms of economic development and social capital, but there is little discussion in reference to how these types of trust emerge. This is the role of the ensuing sections and specifically, disposition to trust is covered in section 3.3.1.

3.2.4 SUMMARY

There is an understanding of trust in parts, as Siegrist et al. (2005) points out, trust is seen as a tool for decision-making in a situation of risk. Trust is about overcoming 'risk' in particular situations, and so the decision or judgement needs to be made on whether or not to extend trust another (Cofta 2007). It is about future actions and positive expectations (Misztal 1996). Irrespective of the context, a common thread running through most discussions of trust indicate that there must be an element of vulnerability in order for trust to occur (Corritore et al. 2001; Baier 1986; Warren 1999; Fukuyama 1995). This vulnerability is commonly referred to as risk (Siegrist et al. 2005) but can be accurately viewed as any potentially negative or damaging outcome (Gambetta 1990).

'Trusting a person means believing that when offered the chance, he or she is not likely to behave in a way that is damaging to us, and trust will typically be relevant when at least one party is free to disappoint the other, free enough to avoid a risky relationship, and constrained enough to consider that relationship an attractive option. And so, trust is implicated in most human experience, of course, to widely different degrees' (Gambetta 1990). It involves the willingness to make oneself vulnerable to another, and a simple way of overcoming this is by relying on those individuals that share similar values or intentions to your own (Yousafzai et al. 2009). It is not all about the economic rules of rational utility maximisation, Fukuyama (1995) argues against the idea that everyone is out for him or herself, and carries the alternative viewpoint that people do things based on insufficient information and ethic habits. For it is not rational for people to be 'rational' about every single choice they make in life, if this were true, their lives would be consumed in decisions over the smallest matters.

‘Trust as an attitude is motivated in everyday situations by a rich mixture of factors, for which we can exclude coercion, since trust ‘can be promised and trust can be earned, but it cannot be ordered (Lieberman 1981). Neither can it be purchased or bribed, since, as an age-old truth immortalised in King Lear illustrates, and attempt to ‘buy’ trust can only destroy it’.

‘Trust involves a judgement, however implicit, to accept vulnerability to the potential ill will of others by granting them the discretionary power over some good. When one trusts, one accepts some amount of risk for potential harm in exchange for the benefits of cooperation’ (Warren 1999). There must be a possibility for bad things to happen for trust to be required. If the participant sees little risk of a negative outcome, then trust is not necessary (Blanchard et al. 2011).

Question	Understanding Trust
What	Trust is the outcome of a decision-making process in a situation of risk
When	It is concerned with future action and is underpinned by positive expectation
How	It is a decision making process based on (socially constructed) willingness to trust, perceived trustworthiness in the context of risk
Why	Used to reduce complexity through cooperation
Where	Between people in a situation characterised by risk

Table 5: Understanding Trust

Overall, the author recognises trust as a process, a process with specific stages, conditions and particular characteristics that combine to make trust a unique construct. This will be expanded upon further in the following sections.

3.3 THE PROCESS OF TRUST

Trust involves a process as it relies on a decision that leads to an action. It must be recognised that in order for a decision to be one driven by the construct of trust, it is necessary for it to incorporate various attributes, characteristics and peculiarities. Bringing into account the literature from the previous section, the author sees the process of trust as being broken down into three elements:

- i) Disposition to Trust
- ii) Perceived Trustworthiness
- iii) Judgement

The following provides an analysis into each of the three ‘trust process’ elements, and in doing so identify the various antecedents and factors of influence involved.

3.3.1 STAGE 1: DISPOSITION TO TRUST

This refers to the initial stage of the trust process (Section 3.4), and is concerned with disposition to trust of the trustor (the trusting individual). Disposition to trust is also referred to in the literature as ‘propensity to trust’ and are closely aligned to the idea of ‘risk propensity’ and ‘attitude toward risk’ (Sitkin & Pablo 1992) as they are both concerned with the same factors albeit from different angles.

The dispositional tendency to trust determines the amount and level of trust that a person has in the absence of available or experiential information on which to base a judgement (Rotter 1980). The concept of disposition to trust parallels to ‘risk propensity, which is defined as the tendency of a decision maker either to take or to avoid risks’ (Sitkin & Pablo 1992). Whether viewed as ‘the likelihood to trust’ or the ‘tendency to take risks’, they are comparable especially when considering the fact that risk is so crucial to trust (Warren 1999), but furthermore they are also comparable as they are shaped and influenced by similar factors. This stage of the trust process is often thought of as the general willingness to trust others (Mayer et al. 1995).

3.3.1.1 INFLUENCES OF DISPOSITION TO TRUST

Individuals differ greatly in their tendency to trust others (Lee & Turban 2001; Gefen 2000) as it is influenced and shaped by:

- Developmental and Personal experiences (Fukuyama 1995)
- Personality types (Misztal 1996; Coleman 1988)
- Cultural backgrounds, (Hofstede 1980)
- Government policy (Uslaner 1999; Putnam 1993)

Within this sense, trust is a personality characteristic of the individual that influences that person’s interactions with the world at large (Chopra & Wallace 2003). These four elements are understood to be the foundation upon which an individual forms their view of trust – i.e. their disposition to trust – however, although there are significant overlaps between these four, and no clear indication of chronology, it is difficult to dispute the importance of what these components represent.

3.3.1.1.1 DEVELOPMENTAL & PERSONAL EXPERIENCES

Developmental experiences are concerned with an individuals’ upbringing from birth onwards. As a consequence of early life experiences, such as a child asking for and receiving milk from a caregiver (Bowlby 1982), the child develops a stable tendency to trust in a broad range of situations (Rotter 1967). Primitive life experiences can – positively or negatively – shape an influence a person’s attitude toward trusting others.

A point that can be made about this idea of ‘primitive life experiences’ is that there is a possibility for reactions or responses to be automatic as the chances of the individual consciously recalling instances of early-childhood could be slim. These experiences may shape aspects of an individual’s behaviour but in such a way that the reaction is handled unconsciously with no rationalisation behind the reasons why. In other words, it is possible that experiences, whether positive or indeed negative, will colour their dispositional tendency accordingly, and secondly as these are ‘unconscious’ they may remain unchanged.

The other side of this – personal experiences – is concerned with on-going experiences, which are a typical part of daily life. These can also work to shape an individual’s trust disposition within particular situations as previous experiences will undoubtedly influence or shape future decisions. Although personal experiences – these on-going occurrences – carry a more linear connection to trust disposition, the literature places more weight on the developmental aspect of experiences as a means of shaping the basic attitude toward trust, due primarily to the unconscious, almost automatic responses of an individual.

3.3.1.1.2 PERSONALITY TYPES

Personality type surrounds the ideas of an individual having an attitudinal tendency – and world-view – of optimism or pessimism. There is a clear overlap with the aspect of ‘development experiences’ above, as our fundamental disposition of optimism or pessimism is something which is also set early in our lives (Coleman 1990).

Being an optimist or pessimist is a psychological propensity that has been shaped by key life experiences, which may have been coloured on an individual level, or a wider social level (Uslaner 1999). Unlike developmental experiences – which are generally specific to that individual – personality can be shaped by the society that we inhabit, it must be recognised that optimism and pessimism are more than just a summation of life experiences; they are essentially a world view (Miszta 1996). They reflect our values as least as much as our experience (Coleman 1990) and crucially they reflect our expectation for the future – a point that would clearly influence an individual’s disposition to trust as trust is also about future outcomes.

Optimism is seen as the basis for trust and, more crucially, economic equality within society creates a breeding ground for optimism; it is the strongest determinant of trust. Uslaner (2002) illustrates this point by explaining that economic equality within a society gives the impression that each member has a fair chance at life... ‘more equal distribution of income makes those people with less feel more optimistic in that they can share in societies bounty’, and the opposite is also true.

Clearly put, optimists carry a positive world view, thus believing that other people will be helpful. Optimists are tolerant of people from different backgrounds, value both diversity and independent thinking and have

confidence in their own capacity to shape the world (Misztal 1996; Uslaner 1999; 2002; Rosenberg 1956; Lane 1959). As they are not worried that others will exploit them (Uslaner 1999), it makes sense for them to trust (Rosenberg 1956). On the other hand, pessimistic people trust only their kind (if anybody at all), they withdraw participation from wider society and, similar to particularised trust, they never get the benefits of risk taking (Fukuyama 1995; Uslaner 1999) as within pessimism the risks are perceived to be far greater and therefore the likelihood of engaging is significantly reduced.

3.3.1.1.3 CULTURAL BACKGROUNDS

Although there is considerable debate over the works of Hofstede, his views on culture and the formation of culture within the work titled ‘motivation, leadership and organisation’ are also parallel to that of Fukuyama (1995), as they share the idea that culture is created by shared irrational habits. It is created through ethical norms and values that have been established over a considerable amount of time and cannot be created by an individual acting alone.

Hofstede (1980) defines culture as the collective mental programming of the people in an environment. Culture is not a characteristic of individuals; it encompasses a number of people who were conditioned by the same education and life experience. When we speak of the culture of a group, a tribe, a geographical region, a national minority, or a nation, culture refers to the collective mental programming that these people have in common; the programming that is different from that of other groups, tribes, regions, minorities or majorities, or nations. Fukuyama (1995) explains that when shared habits, norms and values support cooperative behaviour then a culture of trust can emerge within the society. Cooperative norms act as constraints on narrow self-interest thus having the capacity to create trust (Knack & Keefer 1997). As culture is typically formed over generations of time by generations of people – rather than individuals acting alone – it makes sense to expect that culture is often difficult to change, and if it changes at all, it does so slowly (Hofstede 1980; Fukuyama 1995).

3.3.1.1.4 GOVERNMENT POLICY

The concept of government policy is closely linked to the other three aspects – cultural background, personality type and developmental experiences – in that it can shape and influence an individuals’ dispositional tendency. Government policy can positively or negatively impact society, having the capacity to impact up on an individual’s developmental background, personality type and culture. What is referred to as ‘government policy’ is not only the form that it takes – democratic, autocratic – but also its core principles by which it operates, modern or traditional, feudal or capitalist and the economic and developmental conditions of the respective country.

Only in democracies is trust perceived as being a rational gamble (Uslaner 1999), as when heavy hand of the state looms over society, it makes little sense to put too much faith in most other people (Levi 1996). Within society, 'trust is underwritten by a strong government to enforce contracts and to punish theft, without such a government, cooperation would be nearly impossible and trust would be irrational' (Hardin 1992).

The infamous thirty-year study of Putnam (1993) on civic traditions in modern Italy illustrates how government policy can impact and influence trust within society – which in turn impacts, shapes and influences an individual's disposition to trust. The Putnam study was initially concerned with the fundamental questions of democracy, economic development and civic life within Italy, however it eventually became focussed upon why some governments fail and others succeed. It showed a significant disparity emerging in economic development – as well as the related concepts of social capital, personality traits, propensity to trust – between various regions, leading to a more industrious north and largely economically depressed south. A core element that led to this disparity centred on the construct of trust and how it functioned in society. When Putnam (1993) began his work in the 1970's, Italy moved away from a centralised government system to a government that was divided up into smaller regions. Over the thirty year period, he recognised that the branches of government that covered south Italy were corrupt by nature, led with a sense of narrow self-interest, fuelling a strong aversion to risk, which stunted the economic development and created a society of particularised trust. He noted that within the southern regions, people had a tendency to only extend trust to direct family members or well-known individuals as the potential of loss was felt to be too great to trust openly and easily. The northern regions of Italy became ever more industrious with stronger democratic values, stronger economy and was considered to be underpinned by generalised trust. Bridge building, as it is termed by Uslaner (2002) effectively became a trait of the north, whether this was socially or economically through the provision of finances.

It is necessary not only to trust others before acting, but also to believe that one is trusted by others (Gambetta 1990). Putnam (1993) points out that in such circumstances – whereby nobody is prepared to take a risk or put themselves in a position of vulnerability – each side would find cooperation irrational, and will therefore end up with an outcome that no one wants, unharvest corn, overgrazed commons, deadlocked government. 'In the absence of credible sanctions against defection, how can each side be confident that the other will keep his word in the face of temptation to shirk?' Put bluntly, the study shows that the industrious northern part of Italy had regional governments that were more open, more democratic, more supportive of the population, which can act to facilitate optimism, generalised trust and the virtues of social capital... this idea of creating a wealthier (Knack & Keefer 1997), healthier (Cohen et al. 1997) and a better educated society (Triandis et al. 1988). However, it must be noted that 'democracy is no guarantee of either trust or a vibrant community' (Uslaner 1999), democracies that are badly divided by ethnic, religious, economic or racial clashes may only be marginally more trusting than autocracies that are similarly polarised (Knack & Keefer 1997).

3.3.1.2 DISPOSITION TO TRUST: SUMMARY

The influence that developmental experience, personality traits, cultural background and government policy can have on an individuals’ disposition to trust, goes some way to indicate how people will differ greatly with regards to it. The author upholds the notion that there are two dispositional tendencies that an individual can hold in relation to trust – the idea of holding generalised trust, or holding particularised trust as explained within section 3.2.3.1.1 above (Arneil 2010; Yamagishi & Yamagishi 1994; Uslaner & Conley 2003; Knack & Keefer 1997).

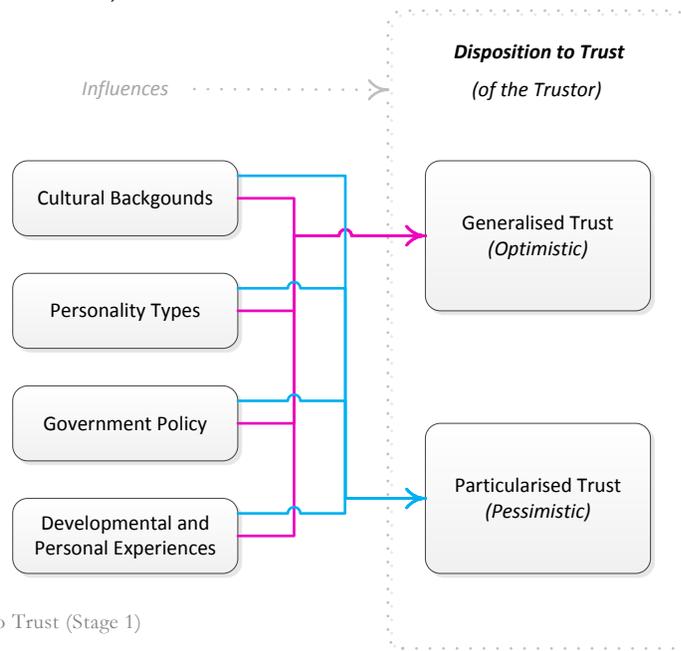


Figure 2: Disposition to Trust (Stage 1)

The four elements – cultural backgrounds, personality types, government policy, developmental and personal experiences – combine to influence a trustor into having a disposition to trust that is recognised as being either generalised or particularised.

Disposition to Trust	Description
Generalised Trust	Optimistic, cooperative, bridge building, leads to virtues of social capital
Particularised Trust	Pessimistic, risk averse, reduces action, narrow self-interest

Table 6: Disposition to Trust

Trust is an attitude that allows for risk-taking decisions (Luhmann 1990). Applying this understanding to the terms of ‘generalised’ and ‘particularised trust’, highlights that the latter differs in that it perceives risk in a different, more adverse light, a light which is socially constructed. A lack of trust simply withdraws activities; it reduces the range of possibilities for rational action...and even stretches to preventing capital investment and even early medication under conditions of uncertainty and risk. In terms of the model (Section 3.4 be-

low), the dispositional tendencies indicate the views of the trustor, which can be highly influential for the next stage of the trust process – perceived trustworthiness.

3.3.2 STAGE 2: PERCEIVED TRUSTWORTHINESS

This section focusses on second stage of the model, perceived trustworthiness (Section 3.4 below). The overall decision as to whether an individual extends trust to another is influenced firstly by their disposition to trust (Section 3.3.1.2 above), and then secondly by their perception of the trustees’ trustworthiness – how trustworthy the person they are engaged with appear.

3.3.2.1 TRUSTWORTHINESS CHARACTERISTICS

‘There is no agreement in the literature as to which or how many characteristics influence the generation of a trust response’ (Connolly 2007), but despite this lack of consensus, there are concepts that can be drawn out upon which trustworthiness can be assessed. Through the literature, the author has identified three characteristics that provide a robust framework to assess the trustworthiness of a trustee, a perception of:

- Competence
- Integrity
- Benevolence

Each of these three contributes a unique perceptual perspective from which to consider the trustee, whilst the set provides a solid and parsimonious foundation for the empirical study of trust for another party (Schoorman et al. 2007; Mayer et al. 1995; Peters et al 1997). Within the wider literature on trust – particularly concerning trust within relationships – these three factors of competence, integrity and benevolence continually emerge albeit under differing titles. Within the work of McKnight et al (2002) and Mayer et al. (1995) a categorisation of trusting beliefs – competence (ability), benevolence, and integrity – was provided and the combined results are illustrated in the table below.

Article / Book	Competence			Benevolence			Integrity					Not Included			
	Competence	Expertness	Dynamism	Goodwill	Benevolence	Responsiveness	Integrity	Morality	Credibility	Reliability	Dependability	Predictability	Openness	Carefulness	Attraction
Anderson & Narus 1990	X											X			
Baier 1986	X			X											
Barber 1983	X							X							
Blakeney 1986		X	X	X			X						X	X	
Bonoma 1976					X				X	X	X				
Butler 1991	X			X			X					X			

Supervisor: Dr. Maria Kutar

Cook & Wall 1980	X								
Cummings & Bromiley 1996				X		X			
Dasgupta 1990							X		
Deutsch 1960	X					X			
Dunn 1990				X					
Farris, Senner & Butterfield 1973									X
Frost, Stimpson & Maughan 1978					X				X
Gabarro 1978	X			X		X		X	X X
Gaines 1980					X				
Giffin 1967		X	X	X				X	X
Good 1988	X				X				
Hart, Capps, Cangemi & Caillouet 1986									X
Heimovics 1984		X	X		X			X	
Holmes 1991					X	X			
Hovland, Janis & Kelley 1953		X					X		
Husted 1990							X		
Johnson-George & Swap 1982					X	X		X	X
Jones, James & Bruni 1975	X				X				
Kasperson et al 1992	X				X				X
Kee & Knox 1970	X				X				
Koller 1988	X				X			X	
Krackhardt & Stern 1988					X				
Larzelere & Huston 1980									
Lieberman 1981	X						X		
Lindsfold 1978					X			X	
McGregor 1967					X				
McLain & Hackman 1995	X				X				
Mishra 1996	X				X			X	X
Rempel et al 1985					X	X			X
Ring & Van de Ven 1994					X				
Rosen & Jerdee 1977	X								
Sato 1988					X			X	
Sitkin & Roth 1993	X								
Solomon 1960					X				
Strickland 1958					X				
Thorslund 1976	X				X			X	
Worchel 1979					X			X	
Yamagishi & Yamagishi 1994					X				
Zaltman & Moorman 1988						X			X

Table 7: Characteristics of Trustworthiness

The table identifies that competence, integrity and benevolence are the three most often used terms for trusting beliefs, the following subsections provide a more detailed understanding of each of these three attributes and how they combine to support the perception of trustworthiness.

3.3.2.1.1 COMPETENCE

This represents the ability of the trustee to do what the trustor requires (McKnight et al. 2002). Perceived competence is defined as the skills, abilities and expertise of the trustee with regards to the specific domain where the trustor is considering trust (Cheung & Lee 2000). Referred to by Connolly (2007) as “ability”, the perceived competence of the trustee within a specific domain is widely accepted as a crucial determinant of trust (Peters et al. 1997). It is understandably acknowledged as an antecedent to trust as, in normal circumstance, it would be highly unlikely for an trustor to extend trust toward a trustee they perceive to be incompetent or unable to perform the task required of them – as this would increase the perception of risk as it reduces the likelihood of a positive outcome, and further heightens the aspect of vulnerability.

Applied to the specific domain of online shopping for instance, Lee & Turban (2001) understand the perceived competence to be evident through elements such as the website design, reliability, usability, fulfilment of transaction and the presence of security features. Trust is domain specific (Zand 1972) and as Mayer et al. (1995) explains, this concern for ability is specific because the trustee may be highly competent in some technical area (affording that person trust on tasks related to that area) such as be trusted to do analytic tasks related to their technical area, but the individual may not, for instance, be trusted to initiate contact with an important customer.

3.3.2.1.2 INTEGRITY

Integrity is associated with aspects of the trustees’ honesty and promise keeping (McKnight et al 2002). It is a complex concept with alliances to conventional standards of morality – especially those of truth telling, honesty, and fairness – as well as to personal ideals that may conflict with such standards (McFall 1987). Although not necessarily disputed, the definition and understanding of integrity within a trust situation do vary in particular degrees. Lee & Turban (2001) describe it as ‘the trusting party’s perception that the trusted party will be honest and adhere to an acceptable set of principles’. Comparatively, Chen and Dhillon (2001) view integrity as acting in a consistent, reliable, and honest manner. The relationship between integrity and trust involves the trustor’s perception that the trustee adheres to a set of principles that the trustor finds acceptable (Mayer et al. 1995). In line with competence, if that set of principles is not deemed acceptable by the trustor, the trustee would not be considered to have integrity for our purposes (McFall 1987), and trust will inevitably be withheld.

3.3.2.1.3 BENEVOLENCE

Benevolence influences the impression of trustworthiness as it is concerned with positive intent and good motives to act in the trustor’s interest (McKnight et al. 2002; Doney et al. 1998). This idea of benevolence within the trust situations is another construct with a diverse understanding, for instance, Lee & Turban (2001) view it as ‘the extent to which the trusting party believes that the trusted party wants to do good things rather than just maximising profit’. Chen and Dhillon (2001) recognise it as the ability of a company to hold the consumer interests ahead of its own self-interest and the indication of sincere concern for the welfare of the customers.

Benevolence is outlined as the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive’ (Mayer et al. 1995), and in acknowledging this comes the idea and importance of reputation (Johnson & Grayson 2005). There is an apparent overlap with the understanding of benevolence which Fukuyama (1995) and Warren (1999) refer to as reciprocity and moral obligation – which they also understand as actions that aren’t based on narrow economic self-interest.

3.3.2.2 PERCEIVED TRUSTWORTHINESS: SUMMARY

As Mayer et al. (1995) points out, each of these factors – competence, integrity and benevolence – capture some unique element of trustworthiness, and contribute a unique perceptual perspective from which the trustor considers the trustee. Each of the elements varies independently and a lack of one can result in the failure to extend trust. High integrity and benevolence may be found within a trustee, but lack in competence in a new field outside of their typical expertise may, for example, damage the perception of trustworthiness for this specific task.

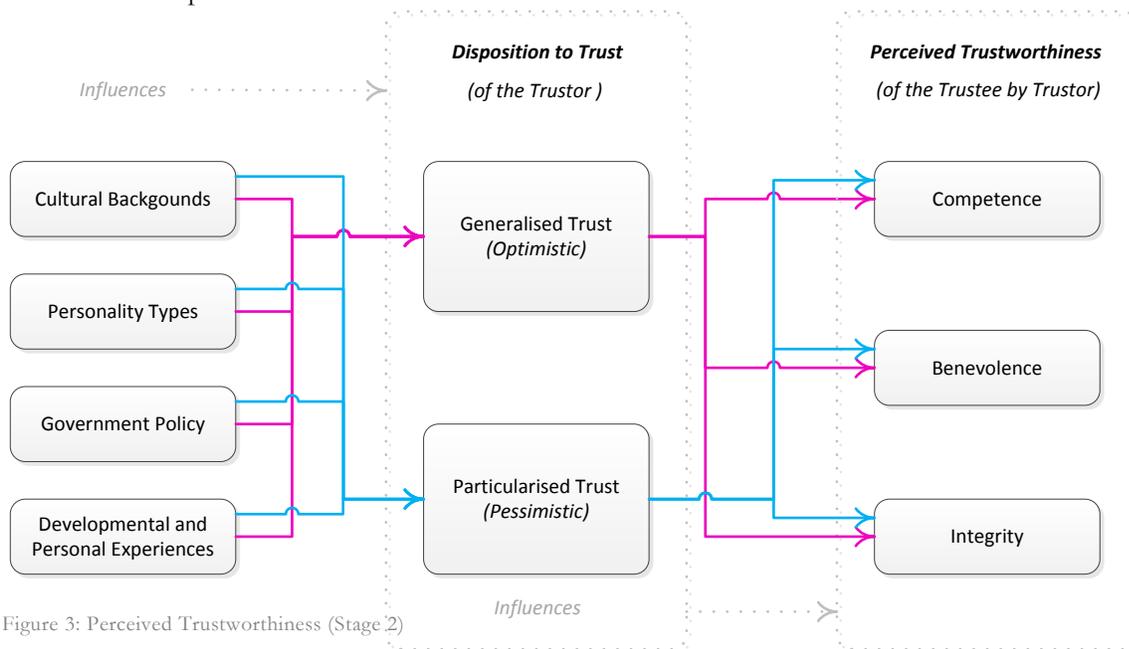


Figure 3: Perceived Trustworthiness (Stage 2)

When combined – *disposition to trust* and *perceived trustworthiness* – the former dictates the likelihood of the individual to trust from the outset, and the latter provides a basis upon which a justification can be formed as to whether trust will be extended towards a specific other.

Unless it is ‘blind trust’, the individual’s *disposition to trust* is not enough of a basis upon which the judgement should be made as to whether to extend or withhold trust to an unknown other; the level of risk inherent to a trust decision is too important for that. The *perceived trustworthiness* is the means by which the trustor should assess and make the judgement upon whether to accept risk by extending trust, or eliminate by withholding trust. Or as Mayer et al. (1995) explains it, the question of ‘do you trust them?’ must be qualified: ‘trust them to do what?’ The issue on which you trust them depends not only on the assessment of integrity and benevolence, but also on ability (competence) to accomplish it.

The extension of trust relies on two key questions: the initial question of whether the trusting party is willing to trust, secondly whether the other party is worthy of their trust. These questions are further complicated by the overall context, the context that defines a decision to be one of trust. This represents the third element of the trust model and it is equally critical because a trust situation requires not just the process of trust, but the peculiarities of trust that must be inherent within the circumstance.

3.3.3 STAGE 3: JUDGEMENT

The decision to extend or withhold trust rests with the outcome of the two stages identified within the model of trust – disposition to trust and perceived trustworthiness. More than this, in order for the decision itself to be one that is recognised legitimately as trust, it requires a set of specific characteristics, referred to in this work as ‘peculiarities of trust’. The trust literature outlines an array of peculiarities inherent to trust; specific attributes that not only makes it what it is, – i.e. trust – but also stop it from being another comparable construct such as confidence, cooperation, or indeed familiarity (as is explained in Section 4.2 below, confidence has a loosely comparable process to that of trust). A trust decision can only be a decision based on trust provided that these attributes are upheld – and although it is critical to the construct – there is considerably more demanded from a trust situation than risk alone.

3.3.3.1 PECULIARITIES OF TRUST

Although there is a discernible need for risk and vulnerability within a trust situation, there are further elements that make trust, trust. It is the presence of these elements, these peculiarities, these characteristics, and these elements that separate a decision of trust away from any other decision-making construct. Some authors take the approach as referring to them simply as ‘risk’ (Siegrist et al. 2005) and others identify spe-

cific characteristics such as ‘vulnerability’ (Ekberg 2007), lack of information (Adams, 2005), lack of control (Moorman et al. 1993), lack of observation (Fukuyama 1993), etc. Within this section, the approach has been taken to identify the various peculiarities of trust, as not only does this provide clarity on the situation(s) where trust operates but, more importantly it highlights the characteristics that enable an understanding to be formed of what it is, and, just as importantly, what it isn’t.

The sections above explain that trust is about a particular expectation we have with regard to the behaviour of another (known or unknown), involves an assessment based on the personality attributes, of competence, integrity, benevolence. Trust is granted on the expectation that the trusted party is not going to cheat us, and it requires us to be in a position of vulnerability as there must be the possibility for exit, betrayal, defection. However, in addition to this, the core peculiarities of trust – the elements that are not only required, but are also in large part unique to trust – are equally as crucial, and are summarised as:

- Damage incurred from a negative outcome is greater than the advantage being pursued (Deutsch 1962)
- Disappointment is internally attributed, such as regret (Luhmann 1990; Fukuyama 1995)
- No protection measures, no guarantees, no assurances (Adams 2005; Seligman 1997)
- Cannot be coerced or promised as that in itself kills trust (Misztal 1996)
- Trust is only extended with the belief of a positive expectation (Seligman 1997)
- Can only exist between people (Offe 1999; Seligman 1997; Hardin 2004)
- No expectation of reciprocity as straightforward exchanges are not trust (Uslaner 1999)
- Free to avoid the risk but choosing not to trust (Luhmann 1990)
- A lack of information, a lack of influence, lack of control (Adams 2005; Mayer et al. 1995; Moorman et al. 1993)
- A lack of observation (Fukuyama 1995)
- Requires a ‘leap of faith’ (Adams 2005)
- Risks cannot be mitigated against (Nissenbaum 2001)
- Once broken, cannot be repaired (Gefen 2003; Cofta 2007)
- Requires uncertainty of outcome (Holton 2004)
- Known or predictable outcomes are not trust (Nissenbaum 2001)

One of the main peculiarities of trust to emerge is that it is a process that can only exist between people. Fukuyama (1995) and Uslaner (1999) explain that trust requires a sense of reciprocity, obligation and benevolence, and ‘only persons, as social actors, are capable of following norms, including reciprocity, compliance with which is necessary for the reproduction of trust’ (Warren 1999). ‘The trusted person must be able to become aware that he has been trusted, and develops a sense of obligation towards the trustor...and strictly speaking, only actors can be trusted, as they are the only units capable of reciprocating trust’ (Offe

1999). Trust can only exist between people as ‘there must be a possibility for exit, betrayal, defection (Gambetta 1990) as the trusted party has a freedom and a disturbing potential for diverse action over which the trustor has no control (Seligman 1997). Parts of the ‘peculiarities of trust’ are highlighted in green in Figure 4 below.

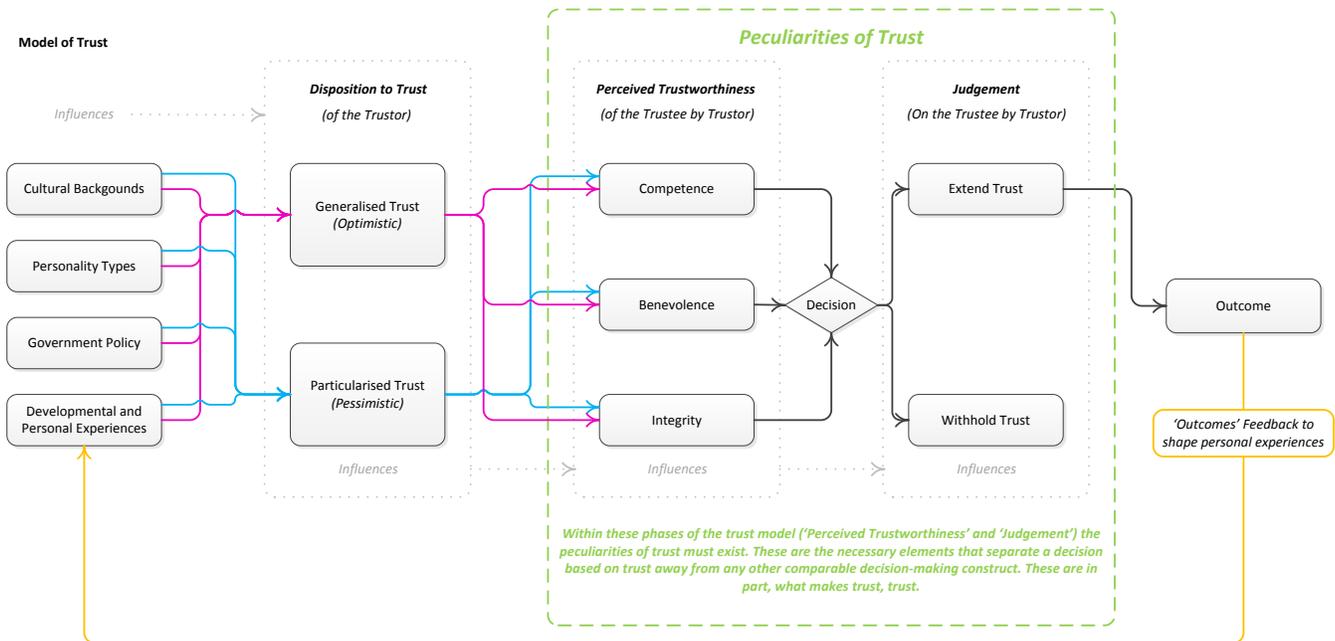


Figure 4: Model of Trust Process

This third stage of judgement is the part of the model that encapsulates the peculiarities of trust that combine to make trust what it is. Without these characteristics inherent to the decision, this is the point at which the decision fails to be one based on the construct of trust and instead becomes a similar entity such as confidence. For example, a decision assumed to be based on trust whereby the risks can be mitigated against through a guarantee and the outcome is predicabile is a decision that is based on confidence and not on trust as the peculiarities are not upheld.

3.4 SUMMARISING TRUST

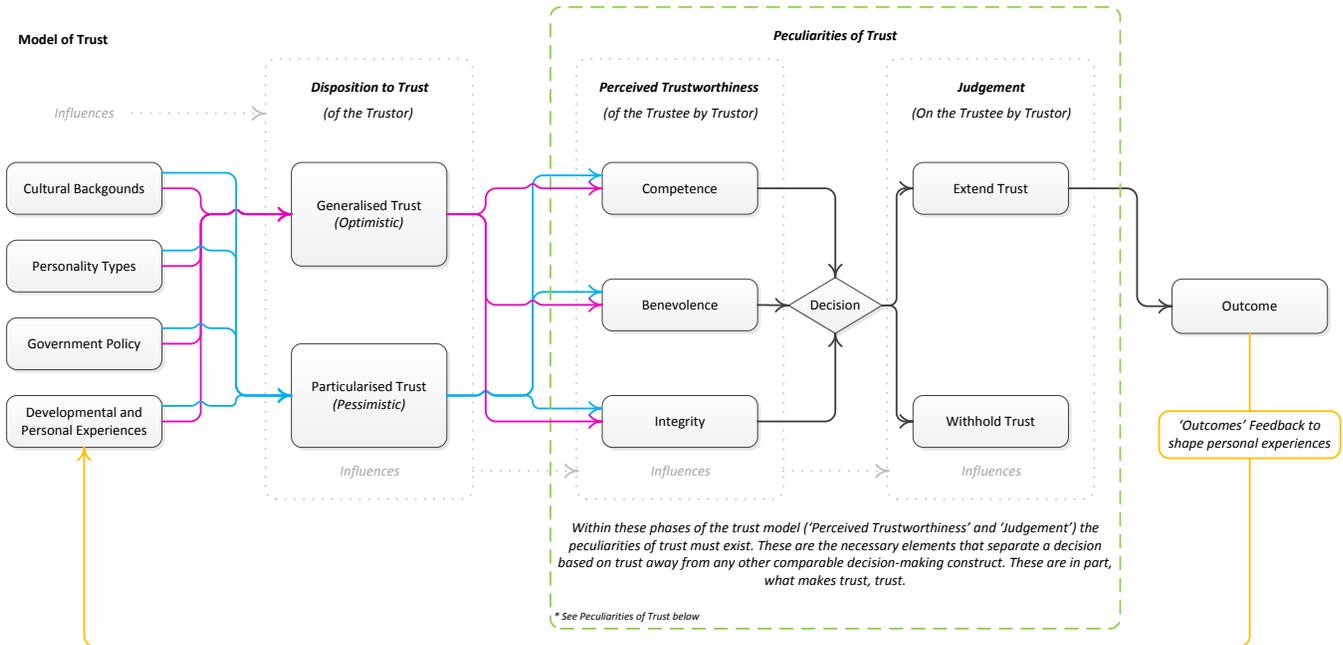
The research concentrated on the core concept of trust, the form of trust that is recognised as facilitating modern society and supporting cooperation between known and unknown others. Although there are several key works that push towards a consistent understanding of trust – Mayer et al. (1995), Fukuyama (1995), Luhmann (1990), Gambetta (1990), Uslaner (1999), Offe (1999), Connolly (2007) – there are still texts that ‘use the word “trust” without necessarily controlling for content validity, while taking the construct’s face validity for granted’ (Castaldo et al. 2010). The result of this is to prolong the confusion. It is for reasons such as this that trust is considered a ‘slippery notion’ (Nooteboom 2002), a ‘concept that is easy to discuss but hard to pin down (Keen et al 2000) and so comes the notion that ‘we know much better what trust does than what trust is’ (Castaldo et al. 2010).

The first thing to emerge from this research was the recognition that trust is effectively a process made up of the following components:

Stage	Description
Disposition to Trust	How trusting the individual is (dispositional tendencies), which is shaped and influenced by personal experience, development, culture
Perceived Trustworthiness	How trustworthy the trusted party is perceived to be, this is influenced (in part) by the propensity to trust, in addition to the trustees characteristics.
Judgement	Whether the decision been made to extend trust or to withhold trust, this is based on the outcome of the above, and is a situation of risk containing the peculiarities of trust

Table 8: Stages of the Trust Process

It is the peculiarities of trust that focus the concept down to a point whereby it cannot exist in its true sense unless these elements are present throughout. For trust to be trust, it requires this process and these peculiarities otherwise it falls short of being trust and starts to become another comparable decision-making construct such as confidence or cooperation. The complete process of trust factors in detail expressed within the literature and is understood to be as follows:



Peculiarities of Trust

Trust is a process that can only exist between people as it requires a sense of **reciprocity, benevolence and integrity**. The trustee has freedom for diverse action, thus maintaining the premise that within trust, there is always the possibility for exit, betrayal or defection. This supports the idea that extending trust puts oneself in a position not only of great risk, but a position of vulnerability.

In a trust situation, there are no assurances, no protection measures, no guarantees, and no safety nets; trust is extended purely on perception which is why it is considered a 'leap of faith'

Although trust is only extended on the basis of a positive outcome, the outcomes cannot be predictable as known outcomes by their very nature cannot hold a sense of risk. Only an unknown outcome can involve risk. A trust decision requires a lack of information, a lack of influence and a lack of control.

Figure 5: Model of Trust Process (with explanations)

The process shows how each stage influences and shapes the next; finally leading to the *judgement* phase where the decision as to whether to *extent trust* or *withhold trust* is made. As the diagram demonstrates, when trust is extended, the result of the eventual *outcome* is then translated back to the ‘*developmental and personal experiences*’ which can then influence future decisions and *disposition to trust* as explained within section 3.3.1 above.

3.5 DEFINING TRUST

This is the stage where the thesis can drive toward a definition of trust; from the above it becomes clear that the work has presented an understanding of the trust process and distinguished it from other comparable (and somewhat overlapping) constructs. In the literature there are two works on trust that stand out to the author in that they carry the most accurate and complete view of trust; these are the research of Castaldo et al (2010) and Adams (2005). The author takes these definitions of trust and using the above research, defines the core concept of trust.

3.5.1 CASTALDO ET AL. (2010)

Castaldo et al. (2010) take the approach of presenting an analysis of the trust construct, and so rather than producing a narrow definition of limited scope, this work provides a robust framework that uses five parts to accurately encapsulate the premise of trust, the context and the antecedents. The definition is broken into what they label as the five main “building blocks” to trust and has been created upon an extensive analysis of literature into trust thus ensuring that the fundamental considerations within a trust scenario are understood and acknowledged.

This definition considers trust as:

- an *expectation* (or a *belief*, a *reliance*, a *confidence*, and synonyms/aliases) that a
- *subject* distinguished by specific characteristics (honesty, benevolence, competencies, and other antecedents)
- will perform *future actions* aimed at producing
- *positive results* for the trustor
- in situations of consistent *perceived risk* and *vulnerability*.

Bringing this together, trust is ‘an expectation that a subject will perform future actions aimed at producing positive results in situations of perceived risk and vulnerability’. The author finds one core weakness within the above ‘building blocks’ and it is this idea of trust being recognised as *confidence* within the first stage. As

has been illustrated within the earlier Section 3.2.2.3.1, confidence and trust represent different constructs with different processes. Although they share many similarities, they are not the same thing (Uslaner 1999).

If the idea of ‘trust being a *confidence*’ is removed from the first stage of the Calstaldo et al (2010) definition, the author finds that what remains is comprehensive in that it convincingly embraces the features of what makes trust *trust*. It also functions well in separating the understanding of trust from the other comparable – and commonly confused – constructs of cooperation (Mayer et al. 1995). It holds the central idea that trust involves risk and vulnerability (Siegrist et al. 2005); is a judgement based upon the perceived competence, integrity and benevolence of the trusted party (Serva et al. 2005; Bhattacharjee 2002); and is understood to be a belief and not a guarantee that the trusted party will aim to perform and produce the desired, positive outcome (Adams, 2005; McKnight et al., 2002)

3.5.2 ADAMS (2005)

A less prescriptive, but equally complete view of trust is provided within the works of Adams (2005) who takes the approach that trust is a broad referent and scope judgement on a person (or person-like entity) that is characterised by risk, a specific lack of information, lack of influence and by the need to take a leap of faith from what is known to what is unknown.

Although superficially vague, this definition not only upholds the components that separate trust from comparable constructs of cooperation and confidence, but does so in a more committed and determined fashion in comparison to that of Castaldo et al. (2010). The *broad referent and scope judgement* is this idea of disposition to trust as well as contemplating and assessing the competence, integrity and benevolence of the trusted other – i.e. their perceived trustworthiness. It adds the further dimension of the judgement being *based upon a person (or person-like entity)*. A shortfall of this definition becomes apparent from the use of person-like entity, as this counters the core point put forward within the peculiarities – that trust can only be extended between people as it must support the idea of integrity, benevolence and more crucially reciprocity. It is arguable as to whether a ‘person-like entity’ can legitimately meet the requirements set down by trust; potentially an animal has the capacity to show benevolence, integrity and competence but whether an animal can satisfy the peculiarities of trust completely is where a challenge remains. ‘If we define trust in this way, it is meaningless to trust an institution as it is to trust one’s bicycle, as neither is capable of acting reciprocally. Like a bicycle, institutions can never be the object of genuine trust, but only the objects of empirical or theoretical knowledge and beliefs’ (Warren: 1999).

The latter three components – this need for it to *involve risk*, a *specific lack of information*, and *lack of influence* – are central points that separate trust from the construct of confidence, and identifies some of the peculiarities of trust. Risk is necessary to trust (Baier 1986; Warren 1999; Fukuyama 1995), however, Adams (2005)

goes one step further by explaining that a specific lack of information is also necessary, which adds to the premise that there are no guarantee's within trust (Zand 1972). The 'lack of influence' is something that further extends this idea of reducing risk as – if the risk is low, then trust is not necessary. Having the ability to influence not only counters one of the peculiarities of trust, but can be used as a method to reduce risk by enforcing sanctions, guarantees, or using contracts, but in doing so would cease for it to be trust (Dasgupta 1990; Lorenz 1990).

The final element is the most crucial as it takes the previous three components and pushes the point further by emphasising that trust requires a leap of faith. It requires the commitment to make oneself vulnerable (Rousseau & Sitkin 1998; Mayer et al. 1995; Siegrist et al. 2005) without having the benefit of a safety net, guarantee or any other form of protection from the possibility of harm. It is a gamble, it has no protection, it's purely based on judgement – a judgement that, as the above explains, is shaped and influenced by the trusting party's' disposition to trust just as much as it is by their perception of the trusted party, with regards to their competence, integrity and benevolence. (Ullmann-Margalit 2004; Mayer et al. 1995; Schoorman et al. 2007; Uslaner 1999; Gambetta 1990; Adams 2005)

This aligns to the ideas (Deutch 1962) of trusting behaviour, defined as consisting of actions that, increase one's vulnerability, to another whose behaviour is not under one's control, in a situation in which the penalty (disutility) one suffers if the other abuses that vulnerability is greater than the benefit (utility) one gains if the other does not abuse that vulnerability.

3.6 TRUST DEFINITION

Bringing the elements of the above chapter together, the author presents a definition of trust as:

Trust Definition: Trust is a judgement based on the perception of another person's benevolence, integrity and competence; it is characterised by risk, a need for vulnerability, uncertainty of outcome, a lack of control, lack of information, lack of influence, and carries with it no measures of protection, guarantees or assurances. Trust is only extended on the basis of a positive expectation, as the damage caused by the abuse of that vulnerability is greater than the benefit being pursued. Once trust is broken it can never be repaired.

4 DEFINING THE CONSTRUCTS

The previous chapter demonstrates that trust is crucial to modern society, particularly with regard to the influence it is seen to have on economic development and shifts in social order. These chapters have also identified the difficulties associated with understanding trust, the lack of consensus on a definition, the misunderstandings and the misrepresentations of the trust concept overall.

The research literature explains that the trust construct is necessary for Web adoption and furthermore that it influences and impacts Web use (Chapter 2 above); research into the core construct of trust allows for an understanding to be established. Trust is a process, and within are a collection of peculiarities that are necessary to a situation of trust.

In short, trust is a ‘process’, and within the process is a collection of peculiarities that are necessary for a situation to be recognised as a trust situation. When carrying forward this view of trust, a disparity begins to emerge in that many of the peculiarities and parts of the trust process cannot be legitimately pushed across to the Web context. One central reason behind this – as explained within the previous chapter, Section 3.3.2 above – is the knowledge that trust is a construct that can *only exist between people*. Trust relies on a sense of competence, benevolence, integrity, reciprocity, obligation, and the need to place oneself in a position of vulnerability; a position whereby the other *trusted* party possesses the disturbing potential for diverse action (Luhmann 1979; 1990; Seligman 1997; Offe 1999; Warren 1999). The Web is a pre-programmed system, not a person or indeed even an entity that has free choice, and it is for disparities such as this why the author upholds the view that trust is a construct cannot exist on the Web.

The role of this chapter is to present the central outcomes of the literature in a succinct fashion as a preface to the research methods. A cross-reference will be made between aspects of the research aims and objectives against the literature, as well as providing a synopsis of the research process to follow. The remaining parts of this chapter:

- Summarise the construct definitions – risk, confidence and trust,
- The central differences between confidence and trust constructs,
- The process of confidence,
- The process of trust,
- Updated research aims and objectives.

Following this will be the next chapter on research methods

4.1 CONSTRUCTS DEFINED

The previous chapters research into the literature surrounding the trust related constructs of risk and confidence, the working definition of each have been established as follows:

Risk Definition: *Risk is exposure to a proposition of which one is uncertain, it is characterised by the importance of outcome to the individual involved and requires both exposure and uncertainty (adapted from Holton 2004).*

Confidence Definition: *The belief that certain future events will occur as expected and is characterised by specific reason based judgement on experience, evidence, familiarity, measures of protection (adapted from Siegrist et al. 2005).*

Trust Definition: *Trust is a judgement based on the perception of another person's benevolence, integrity and competence; it is characterised by risk, a need for vulnerability, uncertainty of outcome, a lack of control, lack of information, lack of influence, and carries with it no measures of protection, guarantees or assurances. Trust is only extended on the basis of a positive expectation, as the damage caused by the abuse of that vulnerability is greater than the benefit being pursued. Once trust is broken it can never be repaired.*

4.2 TRUST & CONFIDENCE

Section 3.2.2 explains that there are several related constructs that often 'overlap' with the understanding of trust; something which further perpetuates the confusion surrounding the topic. In the literature, the construct of trust aligns closely to, and is commonly confused with the construct of *confidence*; whereby the terms of trust and confidence are used interchangeably and are used to define one another.

Although both are decision-making constructs, they differ in the sense that 'confidence is the expectation of competence, and trust is the expectation of goodwill and benign intent' (Yamagishi & Yamagishi 1994). To some this difference may appear inconsequential, but to the author it represents one of the key factors in understanding the how trust and confidence are both similar and yet also both very different. Put simply, the applicability and context for confidence-based decisions and trust-based decisions are at opposing ends of the spectrum; although they may both represent a *decision* and involve an element of *risk* there is much more to consider.

4.2.1 THE DIFFERENCES

There is the credible understanding that the construct of trust is a construct that can only exist between people (Seligman 1997, Offe 1999, Warren 1999) and it is the two attributes of integrity and benevolence as shown within the model that indicate toward this. In order for trust to be extended to another party, a per-

ception of integrity and benevolence must be sensed by the trustor due to – amongst other things – the inherent lack of protection, the presence of risk, the requirement for vulnerability, etc. As trust relies on little more than *belief*, the decision to extend trust rests in part on the perception of ‘trustworthiness’ which is built on the perception of competence and the human characteristics of integrity and benevolence.

- **Integrity in Trust**

Integrity is a complex concept with alliances to conventional standards of morality – especially those of truth telling, honest, and fairness – as well as to personal ideals that may conflict with such standards (McFall 1987)

Although not necessarily disputed, the definitions and understanding of integrity within a trust situation vary in particular degrees. Lee & Turban (2001) describe it as ‘the trusting parties’ perception that the trusted party will be honest and adhere to an acceptable set of principles’. Comparatively, Chen and Dhillon (2001) view integrity as acting in a consistent, reliable, and honest manner. In other words, the relationship between integrity and trust involves the trustor’s perception that the trustee adheres to a set of principles that the trustor finds acceptable (Mayer et al. 1995) Akin to competence, if that set of principles is not deemed acceptable by the trustor, the trustee would not be considered to have integrity for our purposes (McFall 1987).

- **Benevolence in Trust**

Benevolence is seen to influence trustworthiness as it implies a perception of positive intent and good motives (McKnight et al. 2002; Doney et al. 1998) This idea of benevolence within the trust situations is another construct with a diverse understanding, for instance, Lee & Turban (2001) view it as ‘the extent to which the trusting party believes that the trusted party wants to do good things rather than just maximising profit’. Chen and Dhillon (2001) recognise it as the ability of a company to hold the consumer interests ahead of its own self-interest and the indication of sincere concern for the welfare of the customers.

Trust is a particular expectation we have with regard to the behaviour of another (known or unknown) and the expectation that the trusted party is not going to cheat us, despite them having the ability to exit, betray or defect from the situation (Gambetta 1990; Mitsztal 1996; Seligman 1997).

If a decision is made based simply on competence and guarantee, then this decision is not facilitated by the construct of trust, as without the risk of defection or betrayal then it is not trust, just a mere calculation whereby risks can be mitigated from.. Furthermore, as outlined by Nissenbaum (2001) simply satisfying one strand of what trust is (for instance, this requirement of *competence*), but ignoring the others attributes of *in-*

tegrity and *benevolence* means it cannot be classified as trust. This is in part where the confusion between trust and confidence exists.

Bringing it back to the work of Yamagishi & Yamagishi (1994), 'confidence is the expectation of competence, and trust is the expectation of goodwill and benign intent'. With this in mind, as confidence is about competence and predictability, it can have measures of protection; can be extended to objects, governments, systems as well as people. Confidence decisions carry less risk by their very nature due to both the fact that the outcome is predictable but also because is the outcome can be protected against, can be influenced. Unlike trust, a confidence decision does not place the trustor in a position of vulnerability and nor does it necessarily give the trustee complete freedom of action over which we have no control.

4.2.2 SUMMARISING THE DIFFERENCES

The following table is presented in order to shed light on the key differences between the constructs of trust and confidence; through listing their respective attributes it should become apparent that not only are they both closely related, but they are also very different.

Characteristics	Trust	Confidence
What is it about?	Decision-Making Belief Uncertainty	Decision-Making Predictable outcomes Competence
Requirements	Integrity Benevolence Uncertainty Vulnerability Competence Reciprocity	Predictability Competence
Risk	Required Considerable	Not necessary Can be mitigated from
Breakdown / Failure	Internally attributed Regret Once broken, cannot be repaired More damaging than the advantage being pursued	Externally attributed Chance Measure can be taken Unfortunate
Parties	Extended to other people only	Extended to people, systems, objects, governments, organisations, entities
Key attributes	No control No influence No protection No guarantees No assurances Extending trust gives freedom for diverse	Measures of protection Risk can be mitigated from Extended on the belief of positive expectation Decisions can be habitual

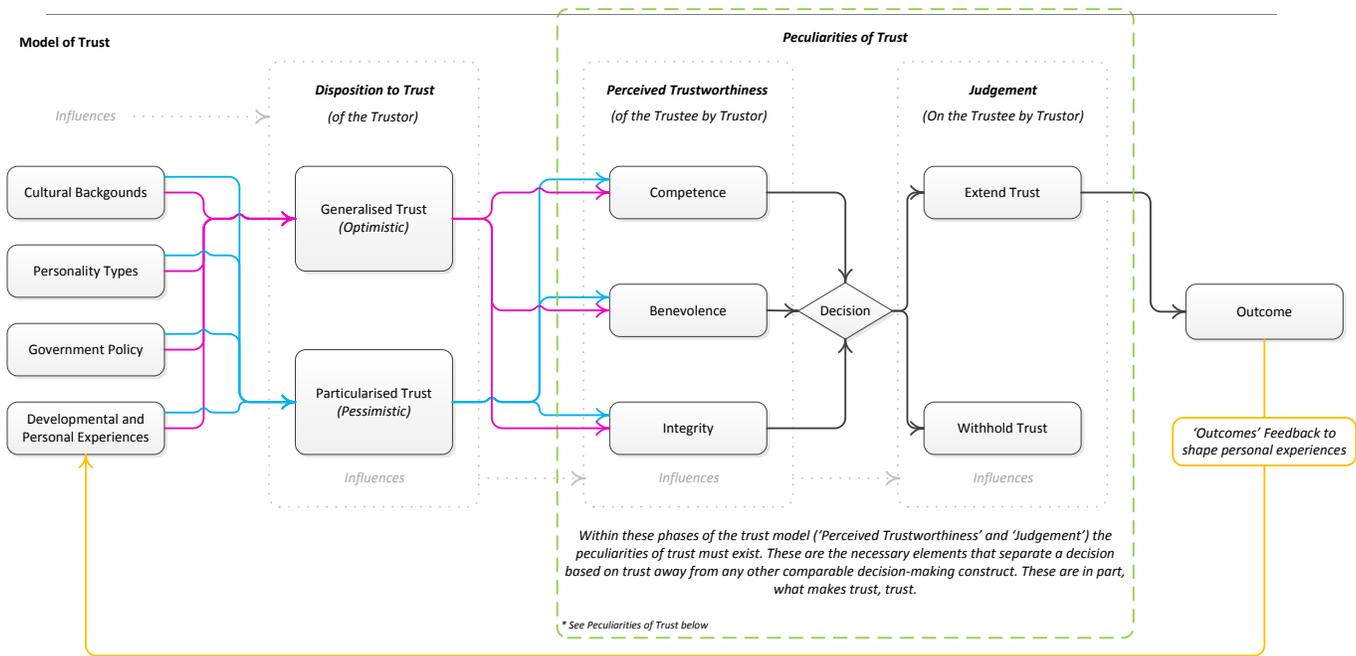
	action (vulnerability) Extended on the belief of positive expectation Decision is always consciously considered
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Table 9: Trust & Confidence Characteristics

4.3 TRUST AND CONFIDENCE PROCESS

The manner by which trust and confidence vary, and yet how they are both similar can also be demonstrated through the modelling of each respective process – the process of trust and the process of confidence. Comparing the model of trust (as developed from the literature in section 3.4) and generating an equivalent model of confidence (through the definition as presented at the start of this chapter) clearly outlines the implications of that which Yamagishi and Yamagishi (1994) explained above.

4.3.1 PROCESS OF TRUST



Peculiarities of Trust
 Trust is a process that can only exist between people as it requires a sense of **reciprocity, benevolence and integrity**. The trustee has freedom for diverse action, thus maintaining the premise that within trust, there is always the possibility for exit, betrayal or defection. This supports the idea that extending trust puts oneself in a position not only of great risk, but a position of vulnerability.

In a trust situation, there are no assurances, no protection measures, no guarantees, and no safety nets; trust is extended purely on perception which is why it is considered a 'leap of faith'

Although trust is only extended on the basis of a positive outcome, the outcomes cannot be predictable as known outcomes by their very nature cannot hold a sense of risk. Only an unknown outcome can involve risk. A trust decision requires a lack of information, a lack of influence and a lack of control.

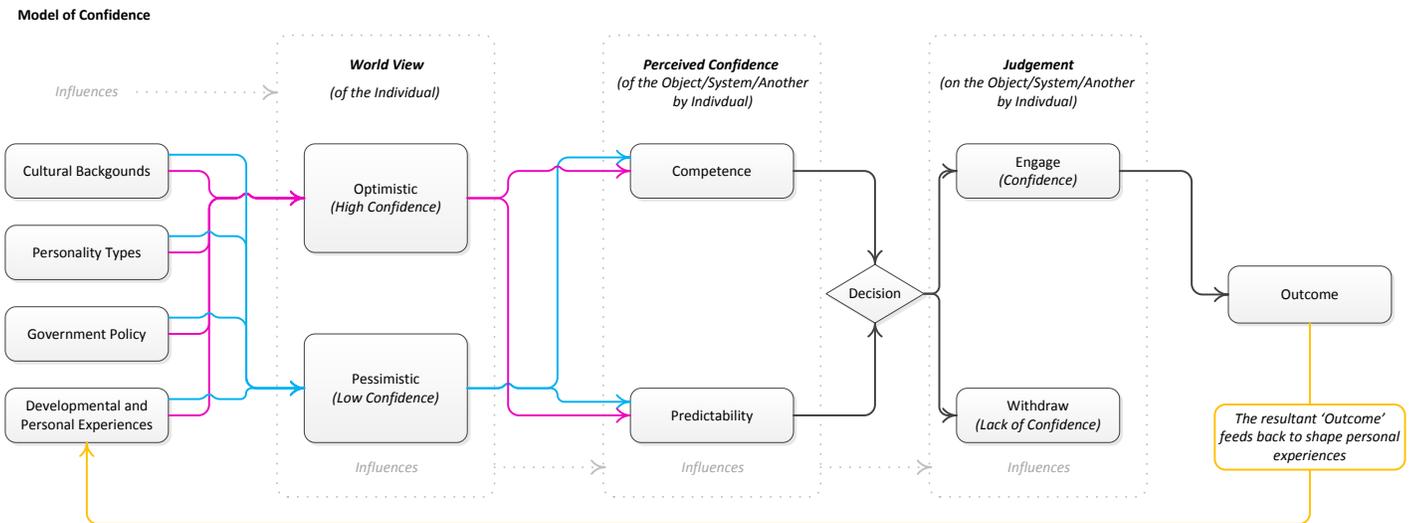
Figure 6: Model of Trust (with explanation)

The process of trust (see Figure 6 above) is concerned with competence, benevolence and integrity of the trusted other, *the trustee*. Because of peculiarities involved within a trust situation, such as the lack of protec-

tion, lack of influence etc., the risks are heightened and therefore the onus is placed on the competence, integrity and benevolence. This goes some way to explain the reasons why trust takes a long time to establish and the reasons why trust cannot be placed on objects and the reasons why trust decisions aren't habitual.

As the process of confidence shows (see Figure 7 below) although it is similar in terms of being a decision-making construct, the elements involved are very different. Confidence is about competence and predictability, it can have measures of protections and can be extended to objects, governments, systems as well as people. These decisions carry less risk by their very nature due to both the fact that the outcome is predictable but also because the outcome can be protected against, can be influenced. Unlike trust, a confidence decision does not place the trustor in a position of vulnerability and nor does it necessarily give the trustee complete freedom of action.

4.3.2 PROCESS OF CONFIDENCE



How Confidence Differs From Trust

Like trust decisions, confidence is also granted on a positive expectation, but the element of risk can be reduced and there is no requirement for vulnerability.

A confidence process relies on the perception of competence and the predictability of the outcome. Unlike trust, confidence is a process that can exist between a person and an object, system, or indeed another person; trust can only be extended between people.

Confidence often has inherent protection measures in the form of guarantees, assurances, come backs, and the implementation of sanctions, all of which combined can reduce risk to insignificant levels. As a result, confidence decisions can become automatic, habitual responses that are not consciously considered.

Figure 7: Model of Confidence (with explanations)

4.4 RESEARCH PURPOSE

As the literature process continued, the initial research question, aims and objectives (presented in Chapter 1 above) were developed further to include some elements that were deemed useful or potentially insightful by the author. These are restated below with the changes highlighted in blue

- **Research Question:**

- *The research question is to understand trust and confidence and how the work on the Web*

- **Research Aims:**

- *To gain an understanding of risk, confidence and trust*
- *To understand how these constructs work in the online environment*

A third and fourth aim that was developed during the course of the research

- *To develop a model of the trust process and a model of the confidence process*
- *Investigate and model trust constructs on the Web*

- **Research Objectives:**

- *Identify key aspects of Web use for social, domestic and pleasure*
- *Investigate the significance of risk, confidence and trust with regards to Web use*
- *Identify the relationship between risk, confidence and trust and how they relate to one another*

Through the literature emerged a definition and understanding of the risk, confidence and trust constructs. Knowing *what* these are enables an understanding to be developed of *how* or even *if* these constructs can exist and function in the Web context; this in turn gives a more complete view of how to support and influence Web use. The literature shows that there is strong support of the idea behind there being different types of Web users – first generation user (FGU) and next generation users (NGU) – who perceive, interact and access the Web in different ways. An element of the study is to see the prevalence of this, and more importantly if the constructs of risk, confidence and trust are perceived differently in an online context. (see Chapter 2.6 above).

To briefly summarise, the literature has identified that although *risk* can exist within both a *confidence* and a *trust* situation, and they are both decision-making constructs they are however called upon in different contexts for different reasons and embrace different concerns with different requirements. Confidence is a construct used for decisions that are focussed on competence and predictability of outcomes and can also house measures of protection in the case of failure. Trust, in turn runs much deeper in that it is about decisions whereby there can be no measures of protection or guarantees, and therefore often house greater levels of risk as they are decisions that are purely based on impressions of competence, benevolence and integrity.

The literature has identified that although *risk* can exist within both a *confidence* and a *trust* situation, and they are both decision-making constructs they are however called upon in different contexts for different reasons and embrace different concerns with different requirements.

The following chapter is focussed on the approach to research, the available techniques and the methods adopted for the study. It handles this process by first dealing with research methods, secondly illustrating the justification and explanation of the adopted approach, and the final component is concerned with the re-design of the specific data capture technique that was used for the research.

5 RESEARCH METHODS

This chapter analyses the elements, techniques and approaches used to design a thorough piece of information systems (IS) research. The accuracy and validity of any IS research projects' findings are directly related to the approach that has been adopted as this ultimately guides and shapes the processes involved. There is a considered structure to the overall research design process and the following sections provide a comprehensive illustration of this.

To provide clarity, this chapter has been broken down into three core sections, as outlined below:

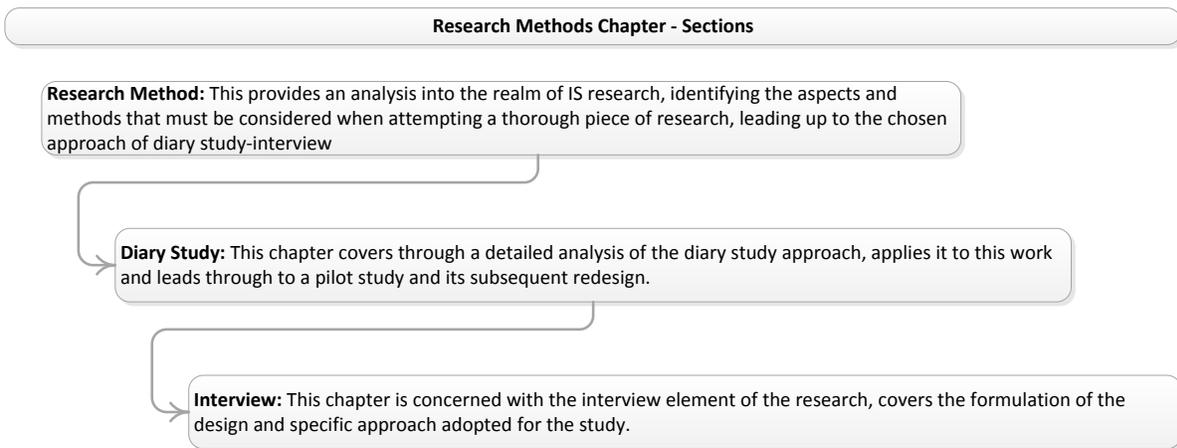


Figure 8: Research Methods Chapter Sections

A complete summary of the implemented diary study-interview approach is provided as the final part to this Chapter (Section 5.8.1 below).

5.1 RESEARCH DEFINED

According to McKenzie, Powell & Usher (1997), research is a response to a challenge; it is undertaken in attempt to solve a problem and as individuals we undertake research everyday whether in our personal lives, as students or as part of our professional career. It can be defined by one of the following processes: study, gathering information or the discovery of new things. In some sense, research can be conducted and categorised into two fields; basic research or scientific research. Although both forms are used to gain understanding and/or provide answers to practical problems, there are key differences in their impetus and execution. Basic research, also referred to as casual human inquiry (Babbie: 1992) is largely fuelled out of curiosity, whereas scientific research uses a structure, a set of processes, procedures and techniques (May: 2008).

The Oxford English dictionary explains that research is the ‘systematic investigation and study of materials and sources in order to establish facts and reach new conclusions’. ‘There is no consensus in the literature on how it should be defined...however, from the many different definitions offered, there appears to be agreement that research is the process of enquiry and investigation; it is systematic and methodical; and research increases knowledge’ (Collis & Hussey: 2003).

Babbie (1992) explains that science makes inquiry more explicit and provides techniques for dealing with it more rigorously than casual human inquiry; this conscious, rigorous and explicit approach is what separates science from casual inquiry. Scientific research is characterised as having structured ways of capturing and managing data and information (Bryman: 2008), the idea that ‘scientific inquiry is more careful and wary of making mistakes and therefore takes special precautions to avoid error’ (Babbie: 1992). Scientific approaches to research carry with them the need for data to be gathered through empirical means – through observation, experiment or experience (Shaw & Jarvenpaa: 1997). The classic example of empirical research is to use a scientific method(s) to test a hypothesis; this would produce results that are observable and therefore testable. Scientific or empirical research is, in a very simple sense focussed upon the creation of theory, the testing of hypothesis and the measurement of observable data.

As it is concerned with the sociocultural aspects of human behaviour, the research conducted within the PhD leans toward the category of social sciences research, as opposed to approaches such as applied sciences, formal science, or life sciences research (Bowling 2009). Social scientific research is the ‘purposive and rigorous investigation that aims to generate new knowledge’ (Sarantakos: 2005); it is concerned more specifically with the identification of regularities in social process, thus expecting to help us understand the presence, type, extent and causes of problems and the way one could control them (Benini: 2000). Social research is based upon empirical research, evidence based on facts gathered by the researcher (Sarantakos: 2005).

Within the above, there is acknowledgment of an established framework to the process of conducting scientific and/or social scientific research. Such a framework, particularly within this scenario, acts as an enabler as it allows the researcher to investigate in a structured manner. It can also be viewed as a constraint as the researcher is, to some extent, restricted within the boundaries of this framework: ‘diversity in research reflects diversity in the parameters that guide it’ (Sarantakos: 2005). It is for these factors that that author understands that the efficacy of the research and its eventual results rely upon the appreciation and comprehension of this structure.

5.2 RESEARCH STRUCTURE

The purpose of a structure is that it adds rigour and provides techniques that facilitate the research process and assists with regards to avoiding errors. ‘Research is diverse and pluralistic. This diversity is associated with a number of criteria such as its focus, its methods, its purpose and its underlying paradigm’ (Sarantakos: 2005)

Although there is consensus surrounding the significance of a research framework, the inherent components are subject to interpretation. Each of the various research methods text explain, in their own particular way why it is crucial for each of these elements to be fully understood and analysed when designing a piece of social research. Even though the different terminology exists, numerous prominent authors in the arena support this idea of an overall ‘research framework’ (Bryman 2008; Creswell 2003; Creswell & Plano Clark 2007; Teddie & Tashakkori 2009) as it effectively governs, guides and shapes the research.

The diagram below is an illustration of the differences in approach that are evident within the literature, the intention of which is to show that although there are differences in the terminology, the overall premise and spirit is consistent.

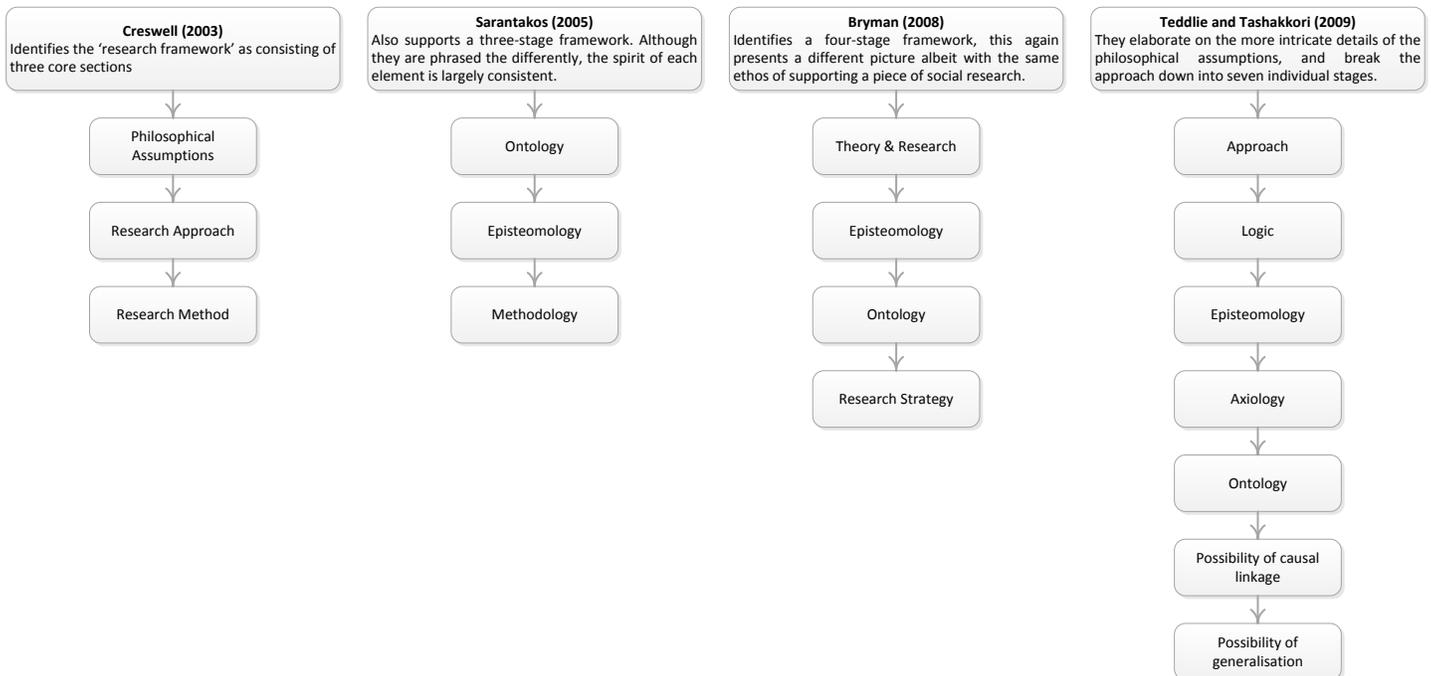


Figure 9: Alternative Research Structures

5.3 ADOPTED FRAMEWORK

Crotty (1998) and his work on the foundations of social research suggest a more thorough and logical framework to facilitate the process of social research. Unlike many other works within the field, his structure relies upon each element – epistemology, theoretical perspective, methodology and methods – residing in a specific place thus leaving behind a clear and linear process. Babbie (1992) outlines a higher-level view and in doing so manages to sum up the social research process very succinctly; ‘epistemology is *the science of knowing* and the methodology can be called *the science of finding out*’. Again, although different terminology is used, the author supports the work of Crotty (1998) in favour of others for the principal reason that it has a clear chronological process; a process that deals with all the elements involved comprehensively and in a manner that works to inform one another.

The Crotty approach to the social research process appears to exclude the role of ontology from its four stages, and despite this, it is important to explain its relevance to social research. Ontology is the theory of the nature of social entities, in other words it is about whether the social world is regarded as something external to social actors or something that people are in the process of fashioning (Bryman 2008). As is shown in Section 5.3.1 ontology is closely related to epistemology.

As pointed out within the work of Crotty (1998) writers within the research literature have trouble keeping ontology and epistemology apart conceptually. ‘Ontologies inform methodologies as to the nature of reality, or better as to what ‘social research’ is supposed to study. Epistemologies on the other hand inform methodologies about the nature of knowledge, or about what counts as a fact and where knowledge is to be sought’ (Sarantakos, 2005). Put clearly, ontology is the study of being, with its focus on ‘*what is*’, with the nature of existence, with the structure of reality as such. Crotty explains that, were it to be included within the framework, it would sit alongside epistemology as a tool to inform the theoretical perspective; ‘each theoretical perspective embodies a certain way of understanding *what is* (ontology) as well as a certain way of understanding *what it means to know* (epistemology).

Epistemological issues and ontological issues tend to overlap and merge together, and with that in mind it is a factor of the social research process that is handled within the first stage (epistemology) or as Crotty explains it, ‘to talk of the construction of meaning is to talk of the construction of a meaningful reality’.

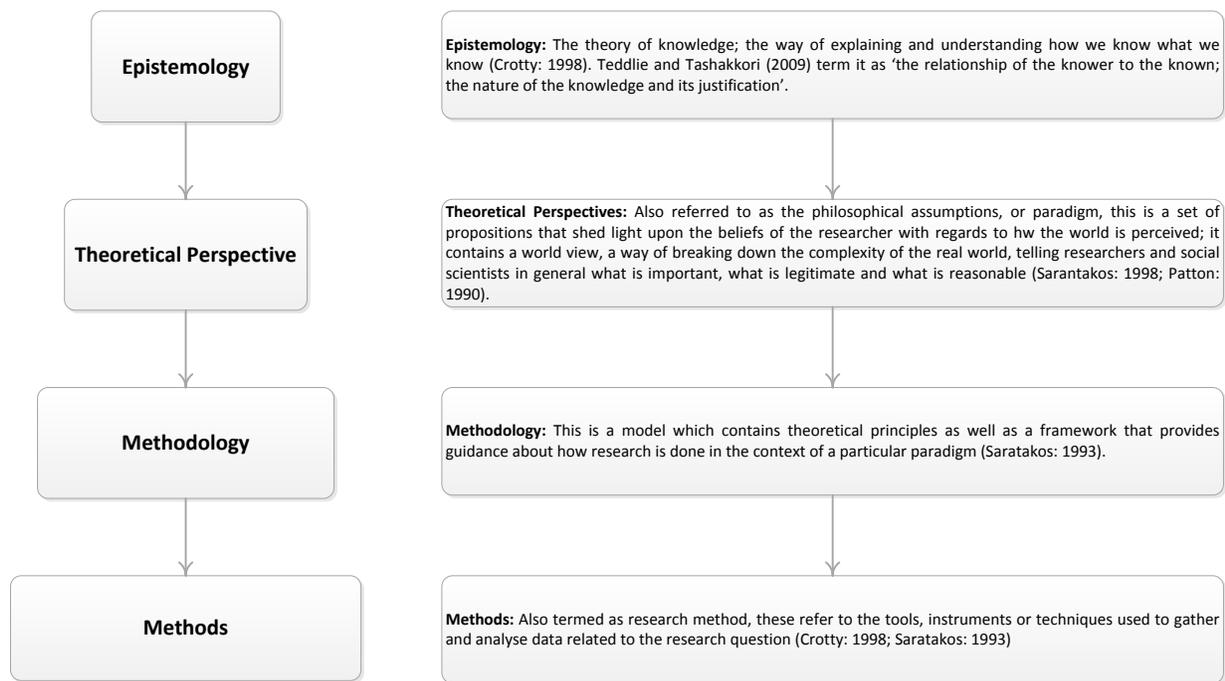


Figure 10: Adopted Research Structure (Crotty, 1998)

Further to the brief descriptions provided above, the following sections cover, in much finer detail, the alternative tools, techniques and perspectives that are applicable to a social researcher and are used to shape and facilitate the research process.

5.3.1 EPISTEMOLOGY

'Epistemology is the science of knowing' (Babbie: 1992). It is concerned with the theory of knowledge (Teddlie & Tashakkori: 2009) and is about explaining and understanding how we know what we know (Crotty: 1998). Epistemology deals with the nature of knowledge and how it is acquired, where it is to be sought, its possibility, scope and general basis (Hamlyn 1995; Sarantakos 2005). It 'is concerned with providing a philosophical grounding for deciding what kinds of knowledge are possible and how we can ensure that they are both adequate and legitimate' (Maynard & Purvis: 1994). According to Crotty (1998), there are a range of epistemologies, and the views of the central three perspectives of objectivism, constructionism and subjectivism are outlined below.

5.3.1.1 OBJECTIVISM

The objectivist epistemology carries the belief that all knowledge is based on perception and holds that reality exists independent of the mind, independent of consciousness (Rand & Peikoff 1990; Babbie 1992). Within this, human knowledge and values are objective and are therefore not created by the thoughts of an individual but by the nature of reality, to be discovered by man's mind (Rand 2008). 'Reality and truth exist

objectively and can be discovered and adequately measured' (Sarantakos 2005). Meaningful reality exists outside of consciousness and therefore when individuals recognise something, they are simply discovering a meaning that has been lying there in wait for them all along. 'In this objectivist view of *what it means to know*, understanding and value are considered to be objectified in the people we are studying and, if we go about it the right way, we can discover the objective truth' (Crotty 1998).

5.3.1.2 CONSTRUCTIONISM

Constructionism counters the view that there is an objective truth waiting for us to discover. This perspective supports the concept that what we regard as 'truth' i.e. our current accepted ways of understanding the world, is a product not of objective observation, but of our engagement with the realities in our world (Burr: 1995). 'There is no meaning without mind. Meaning is not discovered, but constructed' (Crotty: 1998). The meaning comes out when our consciousness engages with the world and its objects. (Merleau-Ponty: 2002). Therefore, as this would suggest, constructionism allows for different people and/or societies to fabricate meaning in different ways, even when the same object or phenomenon is being considered.

5.3.1.3 SUBJECTIVISM

The principal idea behind the subjectivism epistemology is that knowledge is acquired through each individual's experience of an object. The principal difference is that, as explained by Merleau-Ponty (2002), with constructionism the meaning comes out of the 'engagement' between object and subject. Crotty (1998) explains that within subjectivism meaning is 'imposed on the object by the subject'. Therefore, from this perspective it can be construed that meaning is independent of the object and relies on the individual seeking it. There is the idea that the human mind is blank and that the subjective meaning is therefore developed from nothing. Crotty (1998) criticises and states that 'we humans are not that creative' and that meaning can come from dreams, subconscious thoughts, etc; in short, 'meaning comes from anything *but* an interaction between the subject and the object to which it is ascribed'.

5.3.1.4 ADOPTED EPISTEMOLOGY: CONSTRUCTIONISM

The epistemological viewpoint of the researcher would clearly impact upon the nature of the research itself, and upon considering the three viewpoints, that:

- The objective truth is waiting to be found, or that (objectivism)
- Meaning can only emerge from interplay between subject and object, or that (constructionism)
- Meaning is independent of the object and is merely applied by the subject (subjectivism)

It can be clear to understand how any research conducted would be shaped very differently depending upon which notion is ascribed to. Whether the knowledge is perceived by the researcher as being found, built or applied would impact upon the route that the research would follow and would therefore affect the choice of applicable tools and techniques available to apply to it. ‘Different ways of viewing the world shape different ways of researching the world’ (Crotty: 1998).

The epistemological viewpoint of the researcher – and therefore the research – is of *constructionism*, this notion that ‘meaning’ can only emerge from interplay between subject and object. Large parts of the earlier chapters, specifically those related to risk, confidence and trust, define the use of social constructs, a concept whereby meaning is applied from shared understanding.

5.3.2 THEORETICAL PERSPECTIVES

This is the second stage of the research design framework – understanding the theoretical perspectives of the research. Within information systems research, the theoretical perspective of the researcher – their way of thinking with regards to IS research – has a significant impact upon the research direction and its inherent components. This is also referred to as the philosophical assumptions of the research, the research paradigm and the research philosophy amongst others. It demands forethought as the epistemological viewpoint of the researcher is embedded into their philosophy, which carries underlying assumptions about IS research, and can dictate the validity of the research and furthermore what research methodologies are appropriate.

Referred to as a ‘research paradigm’ by Sarantakos (2005), he carries the notion that the theoretical perspective is a set of propositions that explain how the world is perceived; a world view. Within this paradigm are three fundamental elements that guide the research (i) what is important, (ii) what is legitimate, (iii) what is reasonable. Crotty (1998) takes a slightly different view and explains that the theoretical perspectives provide a context for the process involved, a basis for its logic, and criteria, and is essentially a philosophical stance that feeds into the methodology. Orlikowski and Baroudi (1991) identify these three philosophies – or schools of thought – as positivist, interpretivist and critical.

Positivism and interpretivism exist as the two central philosophies of IS research; the author views these as different sides of the same coin as they have opposing views but share the same overall goal of supporting research. ‘The debate between *hard* positivist and *soft* interpretivist research viewpoints has been the subject of much discussion within the IS field’ (Fitzgerald & Howcroft: 1998). These opposing views have led, in some cases to the occurrence of ‘rifts’ between various authors of IS research. The critical viewpoint in research has begun to establish itself as a ‘third way’; a perspective that carries a different outlook and a very different approach when it comes to understanding situations and circumstances. This section will analyse

the three perspectives of positivism, interpretivism and critical research before providing a summary of the approach adopted in this research.

5.3.2.1 POSITIVISM

It was through his social sciences work in the early eighteenth hundreds that Auguste Comte (1798-1857) coined the term of positivism as an epistemological perspective (Martineau: 2000). However, more recently he is seen as merely the populariser of the word (Crotty: 1998). Comte did not ‘discover’ positivism per se (Gould: 1963), but in the study of social physics he did coin the term ‘sociology’ (Crotty: 1998). The work of positive science can be found centuries earlier than Comte, in the writings of Francis Bacon (1561 – 1626). It is seen as being the oldest theory in the social sciences and has lived to dominate the largest part of its history (Sarantakos: 1993). Its hold is weakening, but it is still influential and also hard to avoid (Hughes: 1990; Schrug: 1992).

Often referred to as the scientific approach, a ‘positivist research orientation holds that science is, or should be, primarily concerned with the explanation and the prediction of observable events’ (Kincheloe: 1991). Advocates of positivist research support the idea that reality is objective, and therefore *can* be captured (May: 1993). ‘Positivism is objectivist through and through’ (Crotty: 1998) and as a result of its *scientific* foundation, the positivistic approach to research carries an inherent insistence on explanation, prediction and proof (Maykut and Morehouse: 1994). It works around the notion that we can be positive about our knowledge claims and that they are the absolute truth (Creswell: 2003; Phillips & Burbules: 2000). ‘From the positivist viewpoint, objects in the world have meaning prior to, and independently of, any consciousness of them’ (Crotty: 1998).

The positivist direction to IS research is fundamentally concerned with developing and honing ‘generalisable’ results – those that are universally applicable to all situations. This approach often focuses on cause-and-effect relationships between groups and variables, with the intention of discovering the ‘link’ through experimentation (Campbell: 1957).

This is seen as the ‘hard’ approach as it typically incorporates a form of statistical analysis. Positivistic researchers believe that findings with high external validity – where results are reflected in real-world situations – are the truth, and the only truth, as it is founded upon the belief that there exists a single, objective reality or truth (Gilbert: 2001). It is understood by supporters as the ideal means of gaining knowledge about phenomena as the research results can be tested, which therefore cements their need to be proven. It is about objective, empirically verifiable knowledge (Crotty: 1998). Mimicking the research methodology should – according to this perspective – deliver the same results time and time again. Positivist research strives to explore, explain, evaluate predict and develop and / or test theories (Sarantakos: 2005).

5.3.2.2 INTERPRETIVISM

‘Interpretivism is often linked to the thought of Max Weber (1864-1920), who suggests that the human sciences are concerned with *Verstehen* (understanding)’ (Crotty: 1998). It ‘is an epistemological position that requires the social scientist to grasp the subjective meaning of social action’ (Bryman: 2008). Interpretivism emerged in contradiction to positivism in its attempts to understand and explain human and social reality. As Thomas Schwandt (1994) puts it, ‘interpretivism was conceived in reaction to the effort to develop a natural science of the social’, it looks for culturally derived and historically situated interpretations of the social world.

Interpretivism differs from the positivistic epistemology in that it firmly believes that ‘individuals and groups construct their own version of reality’ (Gilbert: 2001). Applied to the research setting, interpretivism suggests that reality is subjective, and so is not universal in all situations. ‘The study of the social world requires a different logic of research procedure, one that reflects the distinctiveness of humans against the natural order’ (Bryman: 2005). Interpretive approaches to research are therefore fundamentally open, and so are subjected to the interpretation of the researcher; what they perceive to be true (Robson: 1993). Interpretation isn’t regarded as being applicable to all situations, merely – and in some cases more importantly – ‘valid within the context of the investigation’ (May: 1993). In the purest sense, it is founded on the notion that multiple realities exist (Fitzgerald and Howcroft: 1998); its focus is on the meanings and values of acting persons and therefore on their subjective ‘meaning-complex of action’ (Crotty: 1998).

It is concerned with recognising the diversities that exist based upon the subjectivity of the research as it advocates the ‘idea that what we see and report depends on our own perspective and social location (Brettell 1993; May 1993). The results do not need to be generalisable in order to be viewed as valid. Individuals seek understanding of the world in which they live and work and they develop subjective meanings of their experience, meanings that are varied, multiple, complex and are often negotiated socially or historically (Creswell: 2003).

Interpretivism supports the idea that individuals make sense of the world through their historical, social or cultural perspectives (Crotty: 1998), and the researcher’s role is to interpret these meanings that others have about the world (Creswell: 2003). The interpretivist approach to the social sciences is about *understanding* human behaviour, as opposed to the positivist approaches, which is about *explaining* human behaviour (Bryman: 2005).

5.3.2.3 CRITICAL

‘Critical research perspective is based on critical social theory’ (Adderly-Kelly: 2003), which has a long tradition in the work of the Frankfurt School with the ideas of Adorno, Horkheimer and Marcuse who were in turn influenced by the works of Marx and Freud (Held: 1990). It became fully accepted in the social sciences and sociology after World War 2 (Sarantakos: 1993). It is about investigating, then critiquing and eventually changing a particular social context for the core purpose of not only understanding how it came to be, but to also reduce or eliminate the constraining factors that are placed upon those individuals within the particular situation.

Those that adopt this perspective largely assume that the existing social practices have emerged from history, and therefore research attention is commonly applied to secondary analysis (Gillis & Jackson: 2002). The critical researcher is ‘in opposition to the idea that the world cannot be changed’ (May: 2001), but understands that the ability to change is impeded by cultural, social and political domination. ‘The researcher attempts to uncover the distortions and constraints that impede free, equal and uncoerced participation’ (Adderly-Kelly: 2003). It is largely about gaining knowledge through participatory studies and carries with it the view of empowering human beings to transcend the restrictions placed on them by race, class and gender (Fay: 1987). Through analysing and highlighting the restrictive elements of the ‘status quo’ the researcher has the theoretical capacity to eliminate – or at least reduce – the amount of conflict and opposition by identifying their origins.

It is believed that ‘those who profit from the status quo entertain a general suspicion of an intellectual independence’ (Horkheimer: 1982) and as a result, the critical researcher, and the research itself aim to be the fuel for emancipatory action (Humphries: 1997). Ultimately, the critical perspective is about delivering change to the current state of affairs through participatory investigation. However, it is emancipatory in that it concentrates on ‘helping individuals free themselves from the constraints of irrational or unjust structures’ (Creswell: 2003). An action agenda for change is – in some instances – the outcome of the research and the facilitator to deliver change for the participants, but as Creswell (2003) points out, to deliver such requires a full and collaborative approach with the individuals involved. Also coined as the transformative perspective (Teddlie & Tashakkori: 2009), there is an emphasis on ‘placing central importance on the lives and experiences of marginalised groups such as women, ethnic/racial minorities, members of the gay and lesbian communities, people with disabilities, and those who are poor’ (Mertens: 2003). It differs from interpretivism in that as opposed to seeking to understand and accepting the status quo, critical reads the situation in terms of interaction and community; in terms of conflict and oppression and seeks to bring about change (Crotty: 1998).

Sarantakos (1993) explains that within this perspective reality is constructed by the powerful to serve their needs; they manipulate, condition, and brainwash others to perceive things and interpret them the way they want them to. Therefore people create reality, not nature and it is in a state of conflict, tension and contradiction resulting in an ever-changing world. 'Critical studies aim to critique the present circumstances through the exposure of what are believed to be deep-seated, structural contradictions within social systems, and thereby transform these alienating and restrictive social conditions' (Orlikowski & Baroudi 1991).

5.3.2.4 ADOPTED THEORETICAL PERSPECTIVE: INTERPRETIVISM

The researcher is adopting the interpretivist approach to the research. The rationale for this is, not only due to the focus of the study, but firstly to the fact that in his view the critical approach doesn't align to the research question, and secondly the positivist approach is a stance which the author cannot legitimately support; this quest for clear-cut, generalisable and testable methods is something that, in the authors opinion belongs to the realm of hard sciences as the social sciences add a layer of complexity that this approach cannot support.

5.3.3 METHODOLOGY

The methodology is the third stage of the research structure, and as the model implies, this stage is informed from the theoretical perspective. It is essentially a strategy, a plan of action, process or design lying behind the choice and use of the particular methods and linking the choice and the use of methods to the desired outcomes (Crotty: 1998). To reiterate the point made by Babbie (1992) the epistemology (or theoretical perspective) is the science of *knowing* and the methodology is the science of *finding out*. Other authors place an additional layer in the research process at this point, usually referred to as the research approach. This layer works to define between the types of available methodologies based on their criteria of qualitative or quantitative approaches and filters the methodologies into two the distinct categories: qualitative or quantitative.

5.3.3.1 TYPICAL METHODOLOGICAL APPROACH

As each of the two approaches – scientific research and social research – are not absolutely distinct, overlaps are commonplace. 'Traditionally, primary research has been categorised into quantitative and qualitative approaches' (Hewson: 2006), 'almost every type of research, regardless of its nature and purpose, is conducted within either a qualitative or a quantitative strategy' (Sarantakos: 2005). The epistemological assumptions of the research – whether positivist, interpretivist or indeed critical – can sometimes dictate which approach is used to facilitate the research. 'The two approaches are underpinned by different ontological and

epistemological assumptions, quantitative approaches being associated with objectivism and positivism and qualitative approaches with constructionism and interpretivism' (Hewson: 2006). The actual research method(s) used under the banner of a qualitative or quantitative approach are notably varied, but are both understood to have the capacity of yielding interesting research results (Medley: 2001). The common approach, as identified by Creswell (2003) is to 'split' the methodology into three types, qualitative, quantitative and mixed method strategies of inquiry:

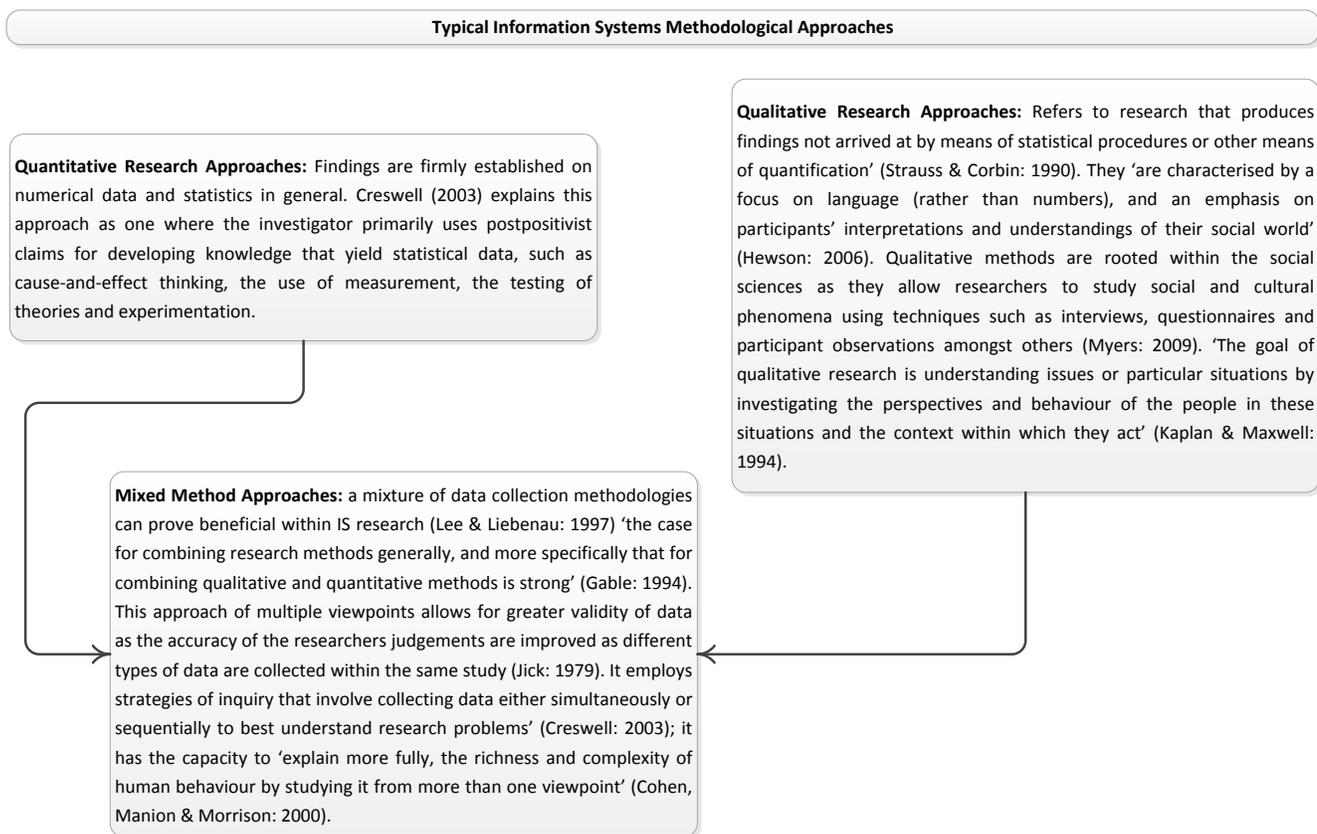


Figure 11: Typical Information Systems Methodological Approaches

5.3.3.2 ALTERNATIVE APPROACHES

As opposed to using the above layer to segregate between quantitative, qualitative and mixed method research methodologies, Crotty (1998) adopts an alternative approach that provides a more level playing field as it pushes this divide into the final 'methods' stage of the research process. His work, and that of Chambliss and Schutt (2006) identifies four clear elements, epistemologies, theoretical perspectives, methodologies and methods; all of which inform one another of their purpose, which in the opinion of Crotty (1998) 'helps ensure the soundness of our research and make its outcomes convincing'. He argues that in most textbooks, qualitative and quantitative research are set against each other as polar opposites, however most methodologies known today as forms of 'qualitative research' have in the past been carried out in an utterly empiricist, positivist manner, just as quantification is by no means ruled out within non-positivist

research. ‘Our research can be qualitative or quantitative, or both qualitative and quantitative, without this being in anyway problematic’ (Crotty: 1998). Authors such as Sarantakos (2005) and Creswell (2003) take the approach of dividing research into the qualitative, quantitative and mixed methods at any earlier stage within the research process.

As touched up on above, each methodology cannot be succinctly and neatly placed under the respective quantitative, qualitative and mixed method banners. If followed coherently, the four elements of the research process outlined by Crotty (1998) will enable a solid foundation for the research and will answer the questions of:

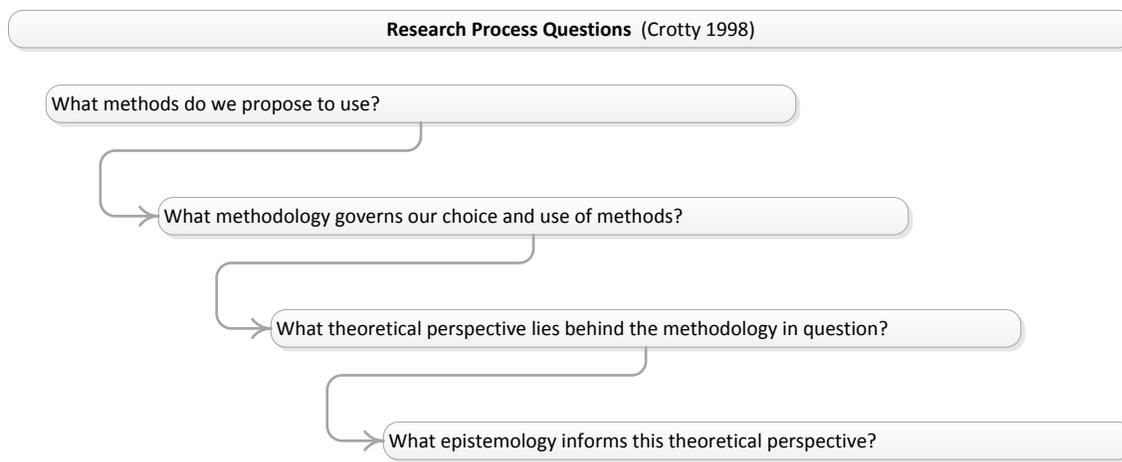
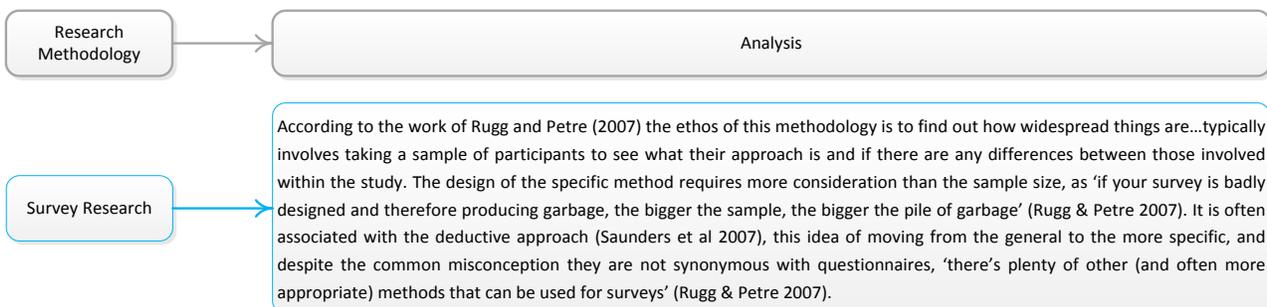


Figure 12: Research Process Questions (Crotty, 1998)

This ‘methodology’ element calls for not only a description of the methodology but also an account of the rationale it provides for the choice of the methods and the particular forms in which the methods are employed (Crotty: 1998), these are also referred to as ‘research strategies’ (Oates: 2006) or research designs (Rugg & Petre 2007). Depending on which text is followed, there are various research methodologies available; here the author will be presenting six key approaches:



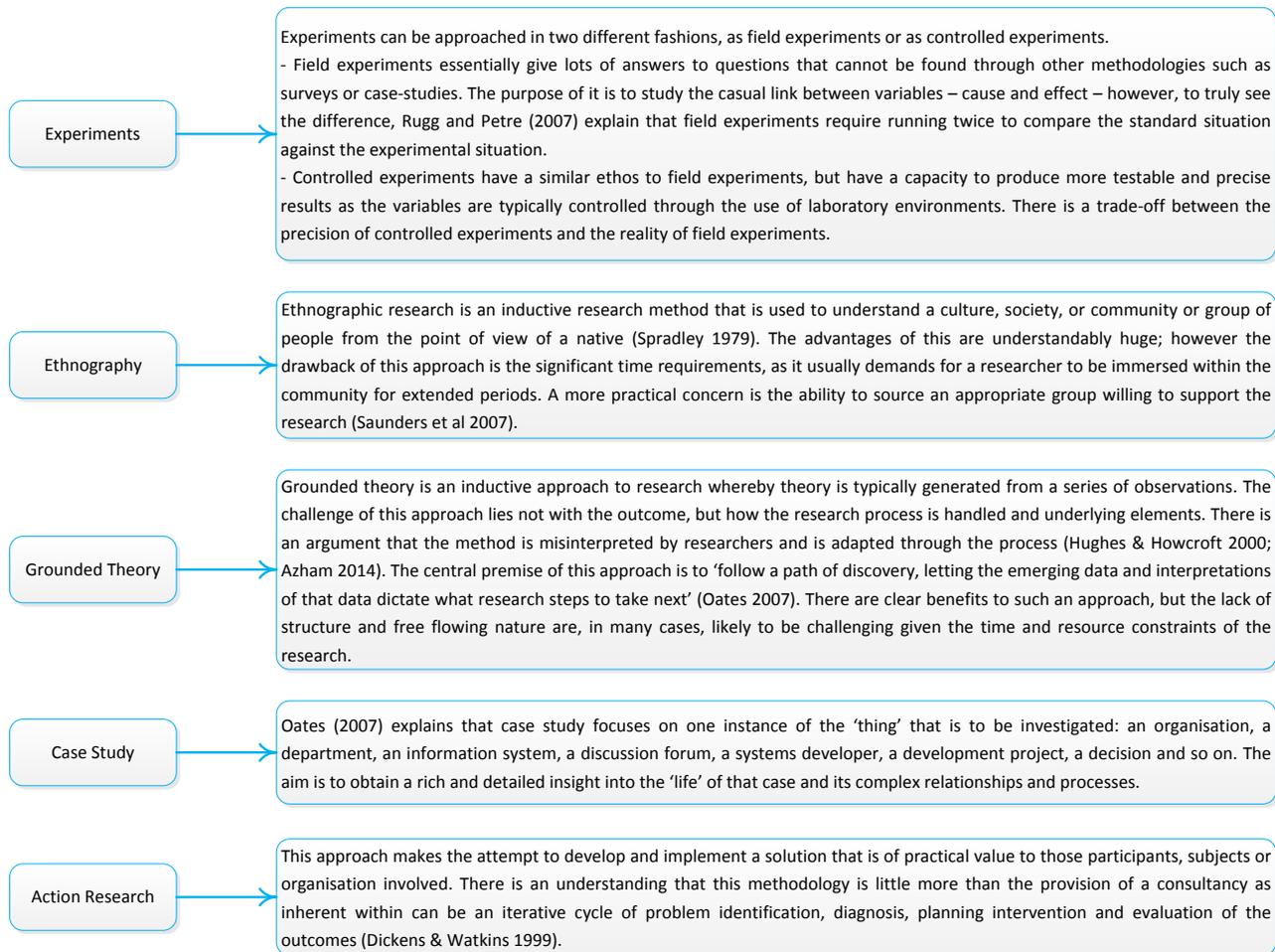


Figure 13: Analysis of Research Method

5.3.3.3 ADOPTED METHODOLOGY: SURVEY RESEARCH

Due to the nature of the research and in consideration of the above, a form of the survey methodology is the approach that is used to support the study into trust, confidence and online behaviour. A central concept within qualitative research is to uncover the social or cultural context of a phenomenon, thus aiming to gain an understanding of the reasons behind particular decisions or actions (Myers: 2009), and this is the reason as to why the author is supporting this approach.

5.3.4 METHOD

This is the final of the four elements to designing social research. As the name suggests, this component focuses on the specific research method that is chosen to answer the research question. ‘A research method is simply a technique for collecting data’ (Bryman 2008). ‘First, we describe the concrete techniques or procedures we plan to use. There will be certain activities we engage in so as to gather and analyse our data. These activities are our research methods’ (Crotty: 1998).

The four-stage research structure ensures that it is at this ‘methods’ level that the distinction between qualitative and quantitative is made. The chosen method(s) is linked to and fed from the methodology itself, in this case, the survey methodology. Chambliss and Schutt (2006) explain in that the methodology is a ‘plan of action’, and the method is the exact process of how this ‘plan of action’ is to be implemented. It is the technical procedure used to gather and analyse data for the purposes of answering the research question. Creswell (2003) explains ‘the choice of the methods by a researcher turns on whether the intent is to specify the type of information to be collected in advance of the study or to allow it to emerge from participants in the project’.

As opposed to incorporating a typical questionnaire and/or interview approach to survey research, the decision has been made to use the diary study – interview method for data gathering, akin to the works of Zimmerman & Weider (1977). The common idea of a diary is ‘a document, generally written for personal rather than publication reasons, that records events and ideas related to the particular experiences of the author’ (Jupp: 2006). As a research method however, ‘diaries are used as an instrument to collect detailed information’ (Corti: 1993) as they can be effectively used to coordinate ‘people to provide frequent reports on the events and experiences of their daily lives’ (Bolger, Davis & Rafaeli: 2003).

As with most research methods, ‘diary studies can take many different forms and have been widely used in such varied domains of application as medicine, education and architecture, as well as technology use’ (Gillham: 2005), and from interface design all the way to the study of user frustration with computer usage (Lazar, Jones, & Shneiderman: 2006). Bryman (2008) and Fontana and Frey (1994) refer to the diary study method under the umbrella of a self-completion survey or self-administered questionnaire method due to their similar traits. ‘Interviewing is one of the most common and powerful research tools (Fontana & Frey: 1994), and Bryman (2008) explains that the diary method is similar to interviews, but the core difference is that there is no interviewer. The lack of an interviewer can impact on the design of the diary, it can make elements such as ease of use, and the participants’ ability to understand what is required from the study to become of major importance. Implementing a diary that fails to consider these concerns could result in incomplete and/or data that is of little use.

5.3.4.1 ADOPTED METHOD: DIARY STUDY-INTERVIEW

The central benefits from this approach – as discussed in depth within the following section 5.5.3.1 below – are centred on the ability to capture sensitive data in its natural environment, and add data richness as well as the ability for serendipitous discovery through follow-up interviews.

5.4 ADOPTED RESEARCH STRUCTURE

To summarise, the work of Crotty (1998) was followed in order to produce a coherent and robust research structure, built up from four stages whereby each informs the next.

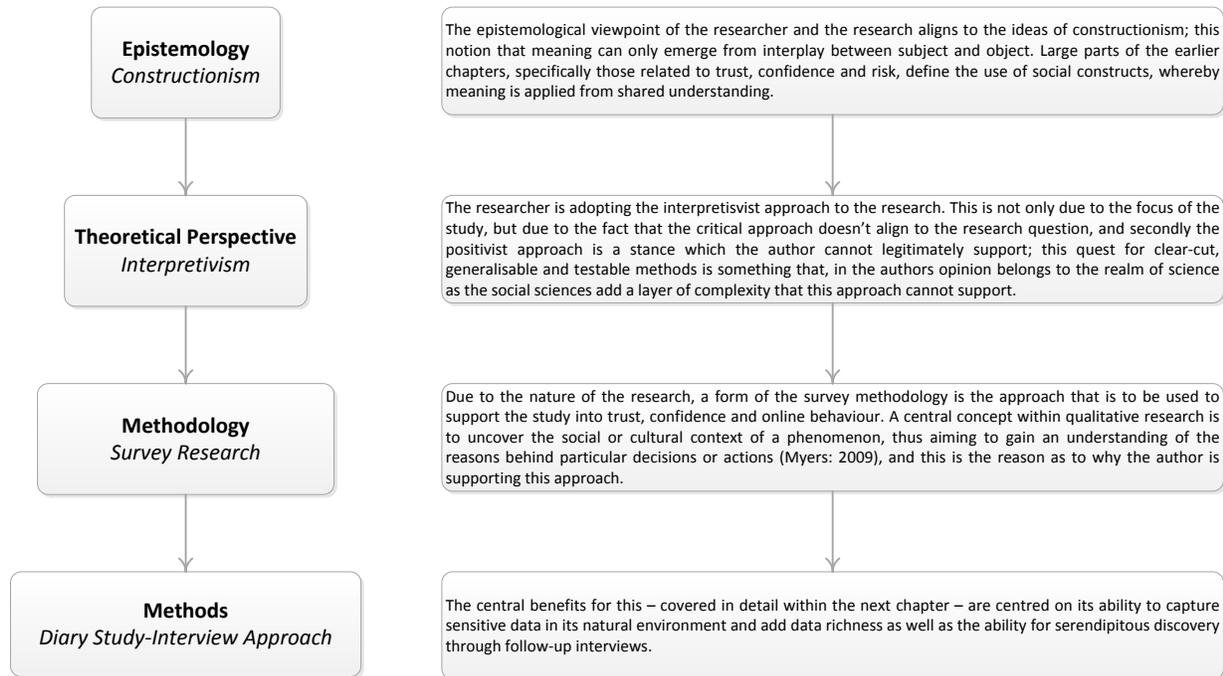


Figure 14: Adopted Research Structure (applied to the study)

5.5 DIARY STUDY

The previous chapter detailed the research structure and led to the adopted research method – diary study-interview. The aim of this chapter is to provide a thorough exposition of the diary study method, to detail the method as a whole and shed light onto the inherent benefits, challenges, arenas of use, forms of data capture, etc, and a full justification for its design, implementation and purpose within the study.

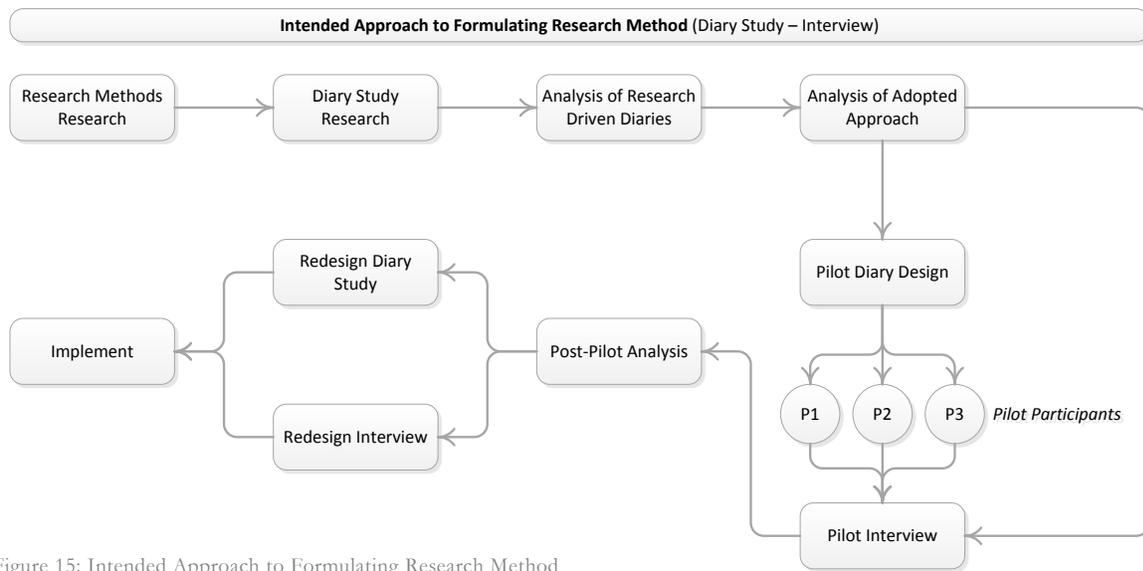


Figure 15: Intended Approach to Formulating Research Method

As will be explained within this section, the actual process differed from the above diagram in that a pilot interview was not designed or implemented as it became clear early on – as the pilot diary study was being completed by participants – that the diary required significant rework (Section 5.5.6 below).

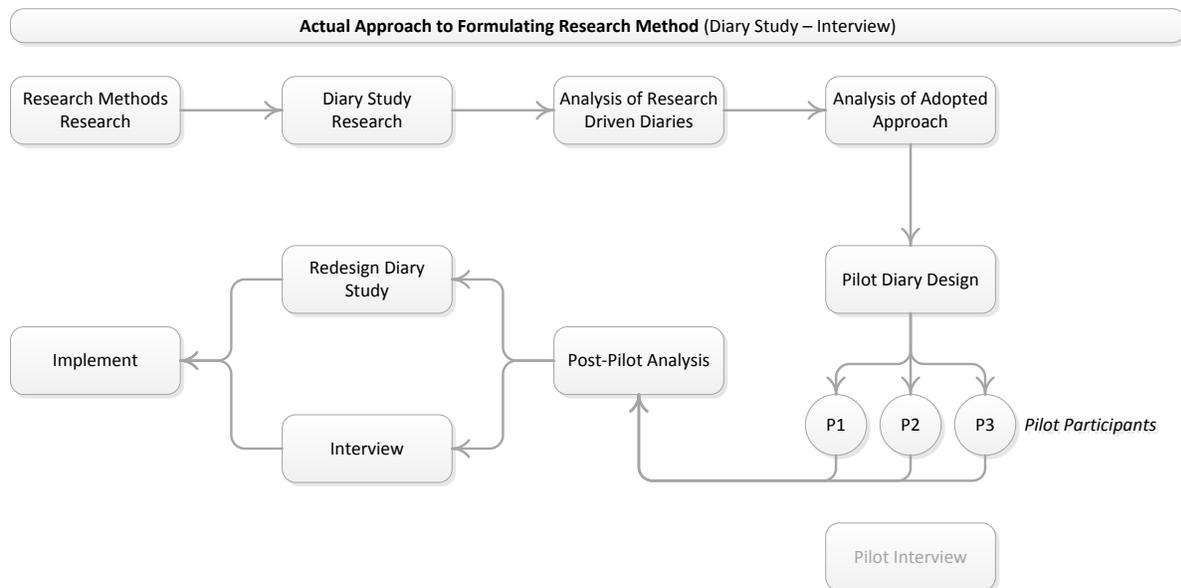


Figure 16: Actual Approach to Formulating Research Method

The diary study and interview components of the research were designed and handled separately, with the diary study being the initial focus (before the follow-up interview was designed and the whole approach was implemented).

This initial section of the chapter deals with the diary study element of the research method, this details all aspects of the diary study; from its various approaches and types, to an overall analysis of the method in terms of its suitability to research. The knowledge and considerations regarding diary design that were gained from this were then applied to the focus of the study and a pilot diary study was formed and implemented. Following from the pilot diary study is an analysis of the trialled approach and the reworked design that was implemented as part of the research.

The section following from the diary study is focussed on the follow-up interview element of the research method (Section 5.7 below). The interview component of the research was designed *after* the diary study pilot had been implemented, analysed and redesigned.

5.5.1 BACKGROUND

The ‘research driven diary’ can be an alternative method of data collection to direct observation (Symon & Cassell: 1998). ‘Although we sometimes think of observation as only involving visual data gathering, this is far from true as it consists of gathering impressions of the surrounding world also’ (Bryman: 2008). One of the hallmarks of observation has traditionally been its noninterventionism – observers neither manipulate nor stimulate their subjects, but to adhere to this belief would be naïve as research suggests that the presence of a researcher alone can affect the research outcome (Selltiz, Kidder & Judd: 1986). Modifying behaviour or observational bias as the result of a researcher being present is considered a damaging consequence of typical observational studies as the validity of the data can be compromised (Zimmerman & Wieder: 1977). A widely touted benefit of the diary study method is that it allows for the gathering of observational data in a way that minimises the observational effects upon those involved. Observation is still seen to take place as the person who completes the diary observes and documents his or her own behaviour (Bryman: 2008). This is one of the core reasons for its adoption as a central method of data collection in this research.

Diary studies permit the examination of reported events and experiences in their natural, spontaneous context, providing information complementary to that obtainable by more traditional designs (Reis: 1994). It can provide the researcher with the capacity to ‘obtain reliable person-level information’ (Bolger, Davis & Rafaeli: 2003) to explain the *why* behind a person’s choice (Lazar, Feng & Hochheiser: 2010) and can also allow for the gathering of sensitive information (Corti: 1993). Some claim ‘it allows for hidden behaviours to be revealed’ (Leadbetter: 1993). Observation has the flexibility to yield insight into new realities or new ways of looking at old realities (Selltiz, Kidder & Judd: 1986) as ‘they have the capacity to alter the problem and question that they’re pursuing as they gain greater knowledge from subjects’ (Adler & Adler: 1994).

As the data is gathered from real people in real situations, researchers are able to collect very specific details about events or psychological states of interest, over time, without having to actually be present to observe or inquire about the activity or state (George: 2006).

Some researchers advocate controlled studies in controlled settings, others support observations in natural setting, as ‘in many cases, it is not feasible to bring users into a fixed setting or visit the users in their natural setting’ (Lazar, Feng & Hochheiser: 2010). It must always be recognised that ‘as the diary study is a method of understanding participant behaviour and intent in situ, it minimises the effects of observers on participants’ (Carter & Mankoff: 2005). Diaries fill the gaps in research methods between observations in naturalistic settings, observation in a fixed lab, and surveys (Hyldegård: 2006). This can deliver further advantages to the study itself, such as being cheaper, quicker, arguably more accurate than questionnaires and the lack of the interviewer not only makes it more convenient for the respondent (Bryman: 2008) but it enables the research to escape from the issues tied into an interviewers’ presence.

‘As with all research methods, diary studies have a number of strengths and weaknesses’ (Wild et al: 2009) that undoubtedly influence the quality of the research produced. As Bryman (2008) explains quantitative observation conducted in a situation deliberately designed to ensure standardisation and control, differ markedly from observation framed by the qualitative paradigm. The solution in certain cases is to use two or three different research methods as this allows for a much better understanding of the phenomena to be acquired than one method alone (Lazar, Feng & Hochheiser: 2010).

5.5.2 APPROACHES

The diary study research method can be approached in several different ways depending on the nature of study itself. Factors such as the constraints of the research – for instance, time, skills and funding – as well as the issues raised by the actual research question, like the required data, sample size, study duration, etc. will influence the chosen approach.

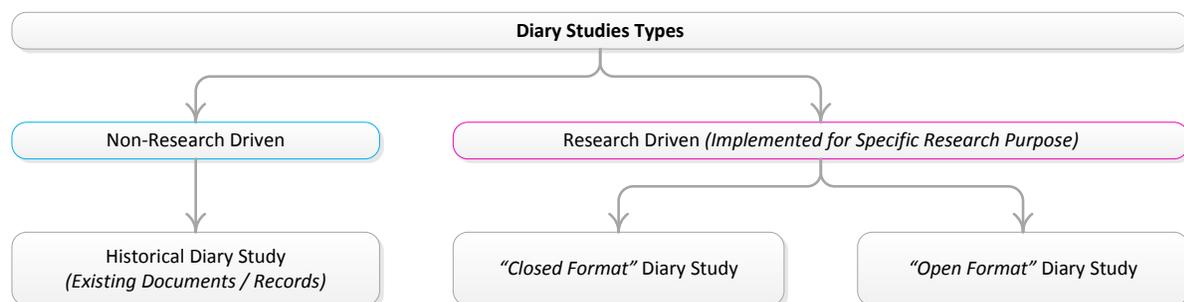


Figure 17: Types of Diary Study

There are effectively three types of diary, two of which are placed under the bracket of ‘research-driven’ diaries as they are designed and implemented for the specific research purpose. These research driven types differ based on the information that each intends to uncover and by the manner by which they gather the data – one takes more of a closed, structured approach, with the alternative being a wider, more open, un-structured path to recording data. The labels applied vary amongst authors, although the understandings of each are largely comparable, as the table below identifies:

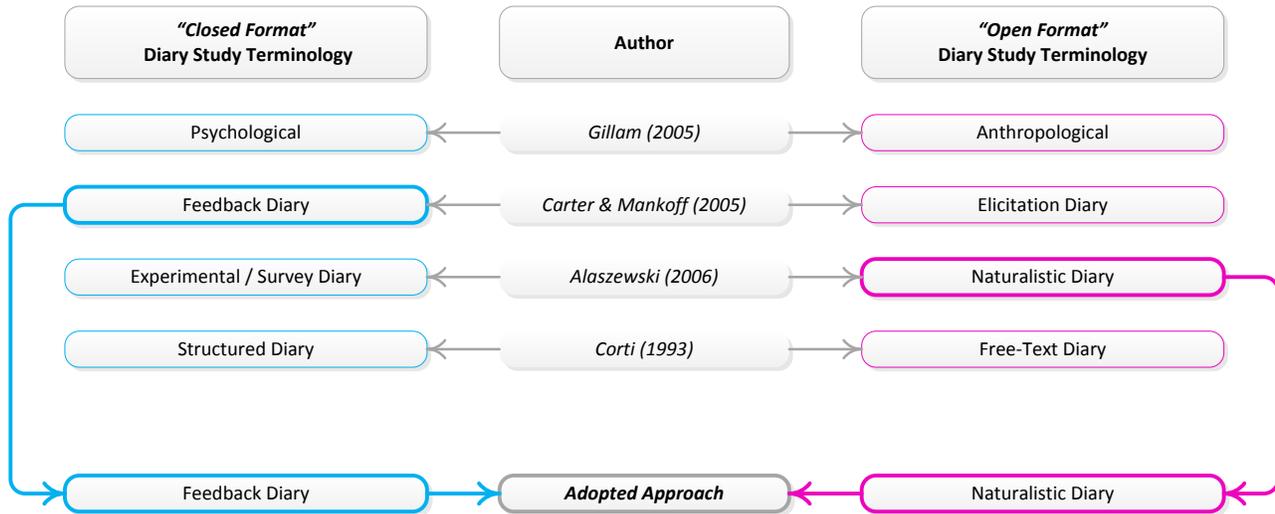


Figure 18: Diary Study Terminology

Within the research, the author has adopted the term of *feedback* diaries to represent the closed type approach (Section 5.5.2.2 below) and *naturalistic* diaries for open, text based approaches (Section 5.5.2.3 below). The rationale of the researcher for adopting these terms – feedback and naturalistic – is that he feels they best represent the two types of research driven diaries. A wider look into the method uncovers the third technique that is arguably the most prevalent outside of IS; the historic diary study. The following subsections describe these three approaches to the diary study method – historical, naturalistic and feedback – and examine the uses and potential merits that each can deliver.

5.5.2.1 HISTORICAL DIARY STUDY

Referred to as a ‘document diary’ by Bryman (2008), this type of diary is written spontaneously by the diarist and not at the behest of the researcher. Historical diary studies are not research-driven. Also known as the ‘unsolicited diary study’, this approach to gathering research data is essentially concerned with identifying objective facts about historical events and people, especially political events and political elites (Postan: 1971). These diaries take the form that most consider a diary to take – ‘a document, generally written for personal, rather than publication, which records events and ideas related to the particular experiences of the authors’ (Jupp: 2006). Historical diaries differ from the other approaches as ‘historical diaries rely extensively on the use of secondary sources – information which has been recorded in various forms, often for pur-

poses other than research, and is reused by the researcher to provide an understanding of past events, actions, relations and social formation' (Alaszewski: 2006). This therefore can incur the use of audio, video recordings, objects, images of the past as well as written documents (Jordanova: 2000). 'Diaries, it should be remembered, are just one person's record, often jotted down in haste, of feelings at a particular point in time - at worst, they are dull, plodding and misleading' (Seldon 1994). This personal nature of diaries can make them an unreliable, biased source, and in addition to this they can be considered 'opportunistic in that the researcher has to make do with what is available' (Alaszewski: 2006). There are many famous examples of published 'historical' type diaries such as Samuel Prepy's or the Anne Frank diaries (Symon & Cassell: 1998).

Researcher's access and use documents and records that are relevant to the purposes of their research, however they must recognise that they cannot change the scope of diary keeping or indeed the survival and / or availability of such documents. As a result, interpretation is a crucial factor within historical diary studies as it relies heavily upon the influence that the artefacts have upon the researcher. The quality, context, availability and scope of artefacts, as well as other external factors such as knowledge and even religious beliefs also impact upon interpretation.

5.5.2.2 FEEDBACK DIARY STUDY

This is what is termed as 'research-driven diaries' as unlike the historical diary described above, these are produced for a specific research purpose (Bryman: 2008). 'The distinctive feature is that it is completed regularly, overtime by the respondent, gathering instances of events, feelings, etc as they happen' (Symon & Cassell: 1998). A principal advantage of diary studies emerges 'because it is unobtrusive and does not require direct interaction (and / or observation) with participants, observation can be conducted inconspicuously' (Webb et al: 1966), which therefore avoids the issues previously mentioned issues of interviewer bias.

Also referred to as closed format, experimental, survey, or as implied earlier, the psychological approach, feedback diaries take the form by which the participant records a number of events that are of interest to the researcher. This type of diary is commonly delivered in a highly structured, closed question type format. This is the simplest form that a diary can take as it is effectively 'a log that contains a record of activities without personal comments' (Alaszewski: 2006). This is where the similarities of feedback diary study overlap with those of a 'self-administered structured survey method' (Fontana & Frey: 1994). 'The feedback diary is the data collection method; the diary is not meant to act as a springboard to anything else' (Lazar, Feng & Hochheiser: 2010).

This approach can allow investigators to uncover the 'importance and impact of events to the participant due to the frequency that they occur in everyday life' (Gillham: 2005). Although the approach can be useful,

it falls short in providing any explanations. This method can be of significance, such as researching into an object's frequency of use, but any additional data required would – in the author's opinion – be ideally captured via other means.

Lazar, Feng and Hochheiser (2010) explain that one of the most important aspects with a feedback diary is the issue of how often a diary entry is made; is it based on a time, the occurrence of a particular event, upon completion of a task, etc.? The recording of a feedback diary can be designed, like surveys, in a very structured manner, utilising closed questioning and/or a checkbox approach. Instances of such work commonly relate to time-use studies whereby participants are requested to detail their activities at prescribed times of the day. A recent example of a study that encapsulates the necessity for ease of use is the 'energy use diary' that was administered in 2010 by the UK gas and electricity provider E.on (web: 01). This simple one page diary asked for children to log instances whereby they made an effort to save energy over a one-week period.

Within some types of feedback diaries, the researcher is usually seeking to make generalisations about a large population of cases, often in the form of testing a hypothesis about the relationship between specific characteristics or variables of cases (Marsh: 1982). The nature of the data gathering and collation within feedback studies complements the use of larger samples, and where generalisability is concerned there is a significant importance applied to the role of sampling for participants. 'The selection process needs to be carefully managed to ensure the findings can be generalised to the whole population' (Alaszewski: 2006), however, this is something which rings true in the majority of positivistic research approaches.

5.5.2.3 NATURALISTIC DIARY STUDY

Alaszewski (2006) explains that researchers using naturalistic techniques are not expected to start with a hypothesis to test; instead they begin with something that they do not understand, for instance particular behaviours or patterns. *This is an impetus behind the approach in this thesis.*

Labelled as anthropological, open format or elicitation diaries, the naturalistic diary gathers richer data that is commonly used for prompting, typically when interviews take place at a later point, and the users are encouraged to expand upon various data points. This form of research-driven diary shares its core characteristics with the 'unstructured survey method' as described by Fontana & Frey (1994) as it provides greater breadth than the structured method and is largely qualitative in nature. These diaries take a more complex form, in that they include not only a record of activities/or events but also a personal commentary reflecting on roles, activities and relationships and even exploring personal feelings. They move beyond the simple objectives of counting events to focussing on descriptive accounts of activity (Palen & Salzman: 2002). It gives those participants involved a wide remit to record day-to-day information about factors of importance

to them. Often referred to as an ethnographic or a culture probe, this approach allows access to environments that are difficult to observe and therefore are able to capture more of the ‘felt life’ (Dix et al: 2003).

As diary studies are intended to be ‘real life’, the presence of an investigator will undoubtedly influence on the environment and so affect the quality of the research (Carter & Mankoff: 2005). Dix et al (2003) and Hyldegård (2006) go further to say that observations can tell you about what people do, but less about what they feel. What is really important to them and what is mundane? Instances where this approach has been adopted are inclusive design projects (Blythe et al: 2003), workplace user frustration with computers (Lazar, Jones & Shneiderman: 2006) and emotional experiences of group project assignments (Hyldegård: 2006). The naturalistic approach has the capacity to extract unexpected but useful information. It can be used to ‘undermine the expectations of researcher and participants’ (Gaver, Dunne & Pacenti: 1999) as the outcomes of the research data can uncover previously unarticulated aspects of behaviours, routines and habits (Kjeldskov et al: 2004). Put simply, open diaries with minimal instructions or structure have the potential of delivering serendipitous results as participants involved may record causal behavioural aspects considered outside of the research scope, or even completely ignored by the researcher.

‘Generalisations do not come in the form of making statistical inferences about the characteristics of a population from a representative sample, but rather consists of gaining insight into the social processes and the rationality that underpins observed actions and events’ (Alaszewski: 2006). As a result, sampling or participant selection does not carry the same weight of significance as it would within a feedback – experimental / survey type – diary. ‘In naturalistic research, the concern is to select cases or settings which will provide an opportunity to gain desired insight’ (Alaszewski: 2006) and in doing so the participants are the prime focus and centre of interest. Coxon (1994) employed a naturalistic semi-structured diary to study homosexual activity, the semi-structure ensures that the correct type of events are recorded and the open format enables further insight to be gained on what can be regarded as a sensitive arena.

5.5.2.4 FIELD NOTES

There is an alternative to the more common feedback and naturalistic research-driven diaries and that is a log of the researcher’s activities. This appears to be a seldom-used technique, and in the author’s opinion it would fall under the umbrella of being research-driven as it emerges as a direct result of conducting research. Interestingly, it does share characteristics with historical diaries in that a specific research question isn’t being answered and is largely written for the researcher’s personal reasons. Albeit useful, such diaries are merely a record of the researcher’s field notes and as such Bryman (2008) considers the method to be tied into the ethnographic research approach, whereas Alaszewski (2006) views it as an off-shoot of the naturalistic diary study due to its unstructured nature.

One of the most known examples is that of the Malinowski Diary whereby the researcher lived and shared the lives of the Trobrinand islanders in the 1910's (Wax: 1972). This work became famous because it showed that he 'did not, in fact, always maintain an understanding and benevolent attitude towards his informants, his state of mind in the field was anything but coolly objective...his comments on both islanders and Europeans were often highly judgemental' (Geertz: 1988). Revealing his inappropriate involvement with females was a further reason for the diary's infamy (Bryman: 2008).

5.5.3 ANALYSIS OF METHOD

This section draws together the positive and negative aspects of the diary study approach as well as working to outline the potential pitfalls that exist.

5.5.3.1 BENEFITS

Diary studies can provide insight regardless of whether historical, feedback or the naturalistic method is used. As research-driven diaries can be completed live they are, theoretically at least, more accurate by avoiding the issues associated with memory recall, such as recording inaccurate or estimated post-event data (Fisher & Layte: 2004). There is a 'reduction in the likelihood of retrospection, achieved by minimising the amount of time elapsed between an experience and the account of this experience' (Bolger, Davis & Rafaeli: 2003). 'We make huge demands on our brains' capacity to store and recall disparate facts and information, and it is not uncommon to be let down or frustrated by difficulty in recalling particular details' (Ellis & Lee: 2004)

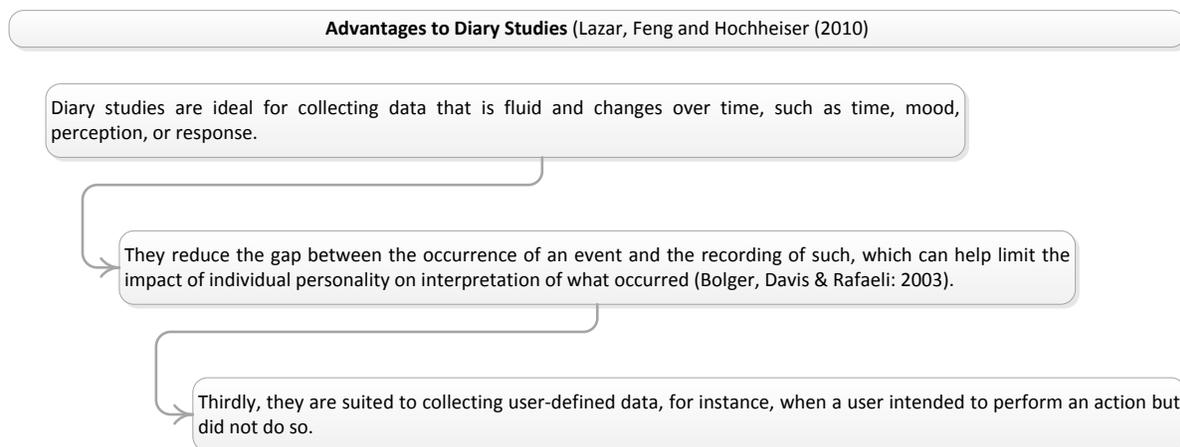


Figure 19: Advantages to Diary Study (Lazar, Feng and Hochheiser, 2010)

In addition to capturing events that are difficult to recall or easily forgotten, diaries can also overcome the issue present with the interview technique of gathering sensitive personal information (Coxon: 1994). They can also represent a rich source of information on peoples' behaviour and experiences on a daily basis and

can also ‘allow hidden behaviours to be revealed’ (Leadbetter: 1993). Palen and Salzman (2002) discovered that because participants were influenced by real events, issues were raised within diaries that didn’t materialise in interviews as respondents either were not asked or did not immediately remember. This is what George (2006) referred to as the diary studies’ ability to fuel ‘serendipitous discovery’ as participants occasionally report on happenings that are unexpected and that lead to deeper insights. Interestingly, diaries can be used as an intervention tool rather than purely for information-gathering purposes, for instance Ross and Altmaier (1994) found that recording logs of stressful events for instance can sometimes have a beneficial impact on the health of the participant.

A naturalistic or experimental / survey diary study has, in theory at least, the potential to eliminate experimenter bias from the study as the participants have only a limited impression of the data the investigators want to obtain. It is less likely for data to be tailored or omitted to fit in with the requirements of the experimenter – something that is commonplace in various other research methods.

They are not typically – but can be – impacted by geographically scattered participants as the study is conducted in situ (Zimmerman & Wieder 1977). Inexpensive methods that call for little or no training can be employed effectively within most studies (Bryman 2008). Diary studies can be effective when combined as a tool to supplement interview data as they can act as an ‘aide memoire’, and in doing so provide richer data that isn’t necessarily hindered by the diary study’s data capture technique (Palen & Salzman 2002; George 2006; Lazar, Feng & Hochheiser 2010; Zimmerman & Wieder 1977).

There is an understanding that although diary studies have a wide-ranging applicability, they are particularly suited to HCI and interface design as they are considered an effective means of capturing highly descriptive data (Palen & Salzman: 2002; Bolger, Davis & Rafaeli: 2003; Gillham: 2005; Newman: 2004). Whether feedback or elicitation, strong data can be extracted from the recording of events as they occur. Identifying behavioural or cultural variances that may exist is another key benefit that can emerge from adopting a diary study. This is especially useful within HCI and interface design research as ‘context of use is an important and often hidden cultural factor which must be understood by designers’ (Mahemoff & Johnston: 1998). The method ‘permits the examination of reported events and experiences in their natural, spontaneous context’ (Reis: 1994) and can provide further, unexpected data that wouldn’t typically emerge from other research methods. Also, as the diary data is generated without the biases introduced from methods that rely on retrospection (Bolger, Davis & Rafaeli: 2003), it has the capacity to produce more accurate and arguably more useful, beneficial information behind the choices and decisions that have been made in that particular situation (Carter & Mankoff: 2005).

5.5.3.2 CHALLENGES

George (2006) explains that participants in diary studies are required to do much more than a respondent to a survey or subject in a laboratory study. As opposed to having up to an hour of involvement in the a typical survey or experimental study, diary studies are performed for a fixed period typically measured in days or weeks, and therefore participants are generally harder to recruit and it can be difficult to obtain consistent and regular enough data (Lazar, Feng & Hochheiser: 2010). Bryman (2008) points out that a time-use diary, for instance, has the potential to be more accurate but is also more intrusive than answering a questionnaire. Alaszewski (2006) also outlines that individuals who aren't used to completing diaries in their personal lives may require prompts or reminders to ensure that the dairies are actually completed. However, such an activity would only be valid if being used against a structured time-use type diary – it would be largely fruitless to prompt a participant to complete a diary entry for a study that investigates spontaneous activities such as logging an entry when a particular event occurs (Parkinson et al: 1996). It must still remain as close to a true reflection of what would otherwise be observable data, putting prompts in situations outside of structured feedback type diaries has the capacity to affect the data.

The time and commitment that this approach can command also has an effect. Not only do participants sometimes tire of the effort involved (Bolger, Davis & Rafaeli: 2003), but they can also forget to complete diaries or may not provide sufficient number of entries (Alaszewski: 2006). The recording of events can be completed at the end of each day (Jupp: 2006) successfully for example. However, some researchers and studies warrant that regular recordings made about events at the time they occur is what forms the key to gaining true insight (Rieman: 1993) as there is no reliance on memory. One of the most crucial factors centres on data validity. As the study is observational and self-completing the data gathered must be a true representation of what the diary demands as 'one of the motivations for conducting diary studies is the ability to collect information about patterns or changes in behaviour over time' (Symon & Cassell: 1998). The validity of the data becomes questionable once participants are subject to relying on their memory and conjecture to complete the diary.

Some of these factors can be overcome, or at least their impact minimised through frequent investigator involvement (Zimmerman & Wieder: 1977). As Palen and Salzman (2002) describe, not only can researcher involvement enhance the participants understanding of the scope and descriptive depth of the study, but furthermore it can keep interest high, thus mitigating declining dedication to maintaining diary entries. This can assist in the problem of 'participants sometimes not being introspective and not aware of the specifics of what they're doing' (Lazar, Feng & Hochheiser: 2010), which in turn results in limited diary entries with limited use. Frequent involvement can have a detrimental impact on other aspects of the study, for instance a dispersed participant base may become difficult, if not impossible to maintain.

A naturalistic or survey / experimental diary study would typically use a data capture technique such as paper, electronic, video or audio and as such participant training may be required to ensure that diaries are completed and / or categorised correctly (Corti: 1993). This can lead to further complexities, such as a reduction in number of willing participants, budget constraints from equipment costs, or simple lack of human resources to provide appropriate training. The design of the study can impact severely on the amount of time available to collate and categorise data, which is something of particular prevalence with a naturalistic approach. A feedback approach can also hinder the study to an extent that useful wider attributes are omitted from the diary as they fit outside of the perceived requirements. For instance, Mintzberg (1973) went against the use of the diary study method in his investigation of managerial activity, as he believed their structured nature constrained the quality of the research material that could be gathered.

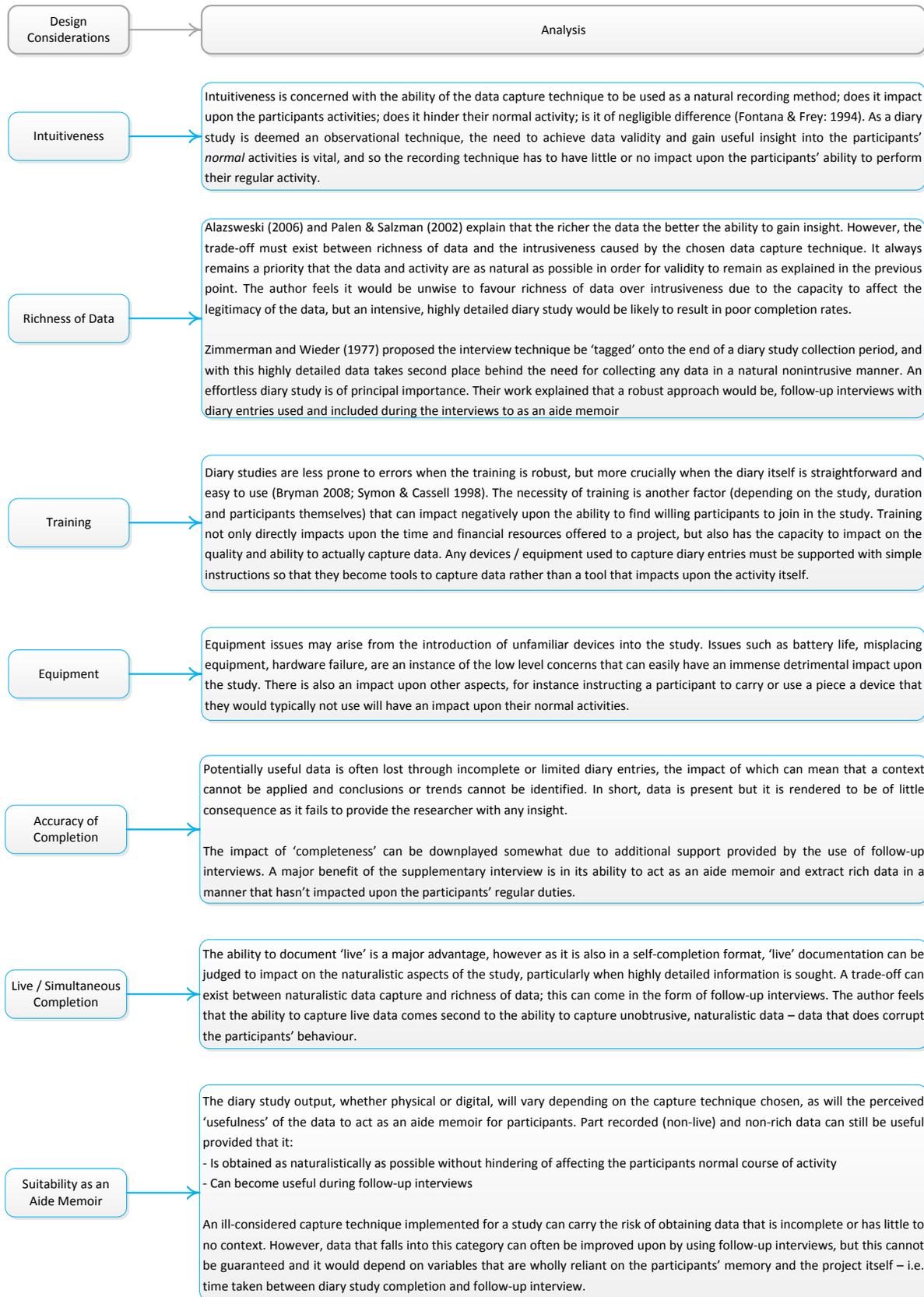
5.5.3.3 DESIGN CONSIDERATIONS

The applicability of diary studies to research is notably wide and varied, from instance:

- Study of working life (Brown, Sellen & O'Hara: 2000)
- Mobile phone adoption (Palen, Salzman & Youngs: 2000)
- Use of photocopiers (Rieman: 1993)
- Text messaging habits of teenagers (Grinter and Eldridge: 2001)
- User frustration with workplace computer usage (Lazar, Jones & Shneiderman: 2006).

The methods used within each study are just as equally varied, from paper based to electronic and audio recordings, the choice of which is largely governed by the approach – whether feedback, naturalistic or historical – and is also dependant on what the study is focussed on. The range and ability to capture data through this method is undeniably large however, like all research methods this doesn't guarantee the efficacy of the results.

The research design and the techniques used must work to support the study, as they carry the very real potential of acquiring considerable volumes of data that may prove to be out of context and / or of little significance. Using the literature on diary studies and self-completion questions, the researcher has applied nine criteria to assess the nature of the study in light of the participants. The overall purpose of which is to ensure that the most applicable, suitable and complementary techniques are selected.



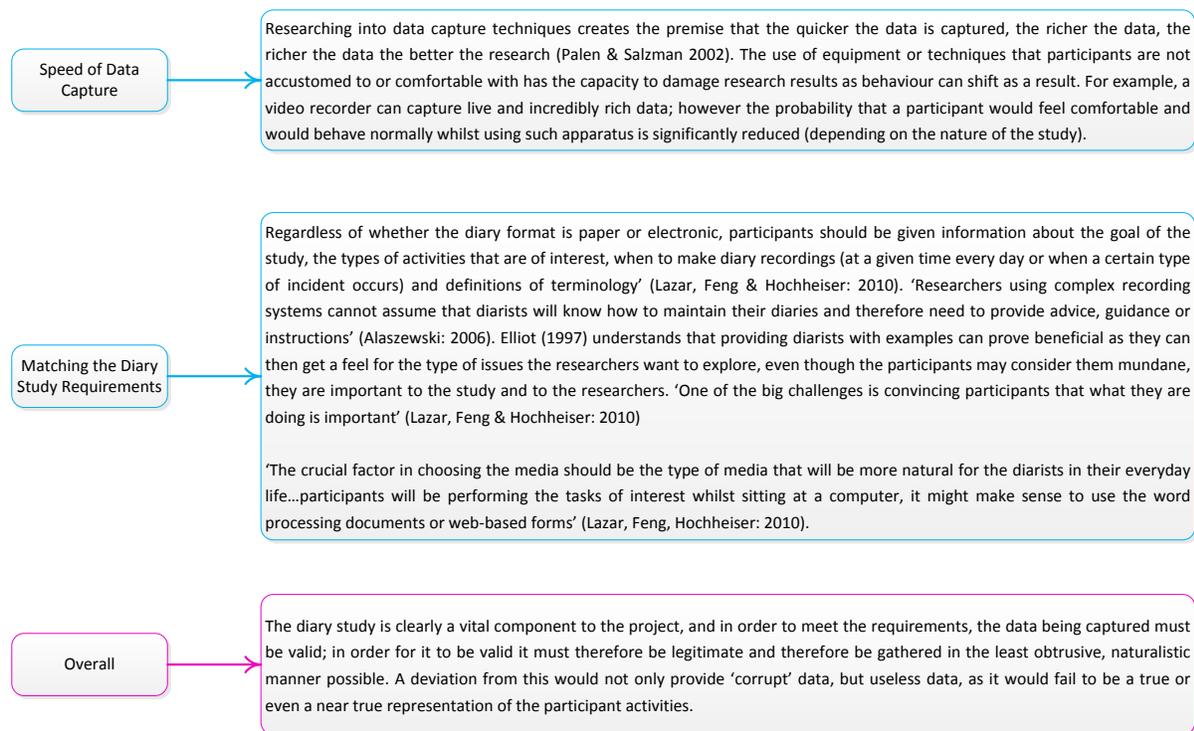


Figure 20: Diary Study Design Considerations (Generic)

5.5.3.4 SUMMARY

Symon and Cassell (1998) explain that the design of the diary requires considerable thought as the lack of an investigator calls for an easy-to-use, clear and understandable diary that extracts the correct data. A detailed, suitable and accurate method must be implemented in order to extract the correct type of data, the accuracy of the data is critical as the outcomes are treated as observations and thus must be a true representation (Alaszewski 2006). This is often why the data gathering process of a diary study is limited in duration; diaries can prove to be a burden, and in becoming so completion rates and accuracy may suffer (Rieman: 1993). If the act of completing the study itself impedes upon the participants' regular actions then the validity of the data can also be brought into question. Factors such as this are why a poorly designed diary can involve considerable effort and a considerable amount of data but yield very little useful and usable information. George (2006), Alaszewski (2006), Lazar, Feng and Hochheiser (2010) highlight an alternative approach, they explain that 'adequate compensation is one way to keep interest' but then go further to explain that such things bring with it the problems of varying levels of compensation based on compliance rates, etc.

The first thing to consider for research-driven diaries is the approach: feedback-diary or naturalistic-diary. With feedback diaries, the researcher outlines and categorises the activities that they wish the participant to gather information on (Preece, Rogers and Sharp: 2002). Corti (1993) points out that the naturalistic diary takes the approach whereby events of interest to the researcher and / or the participant are recorded in the participants 'own words'. However, Carter and Mankoff (2005) demonstrated through their study, an ability

to draw together both approaches – feedback and naturalistic – by implementing a structured means of gathering data, which was later used for prompting in interviews in order to gain further participant insight. This approach is regarded as originating from the work of Zimmerman and Wider (1977) who looked at the diary study method as whole and proposed the ‘diary-interview’ technique, whereby diary study data is further supplemented by participant interviews.

As the research in this thesis is concerned with the *reasons* behind particular actions, not merely the type or number of actions a user does, the ideal method that supports this would be a diary study-interview technique. The premise being that the diary study would uncover what the participant *does*, and the follow-up interview provides the reasons behind *why*.

5.5.4 ADOPTED APPROACH

This subsection (adopted approach) details the initial intended approach that was planned before the pilot study was launched, it covers what was anticipated, and what was then created as a pilot (Section 5.5.5 below), and what was later implemented (Section 5.6.2 also below).

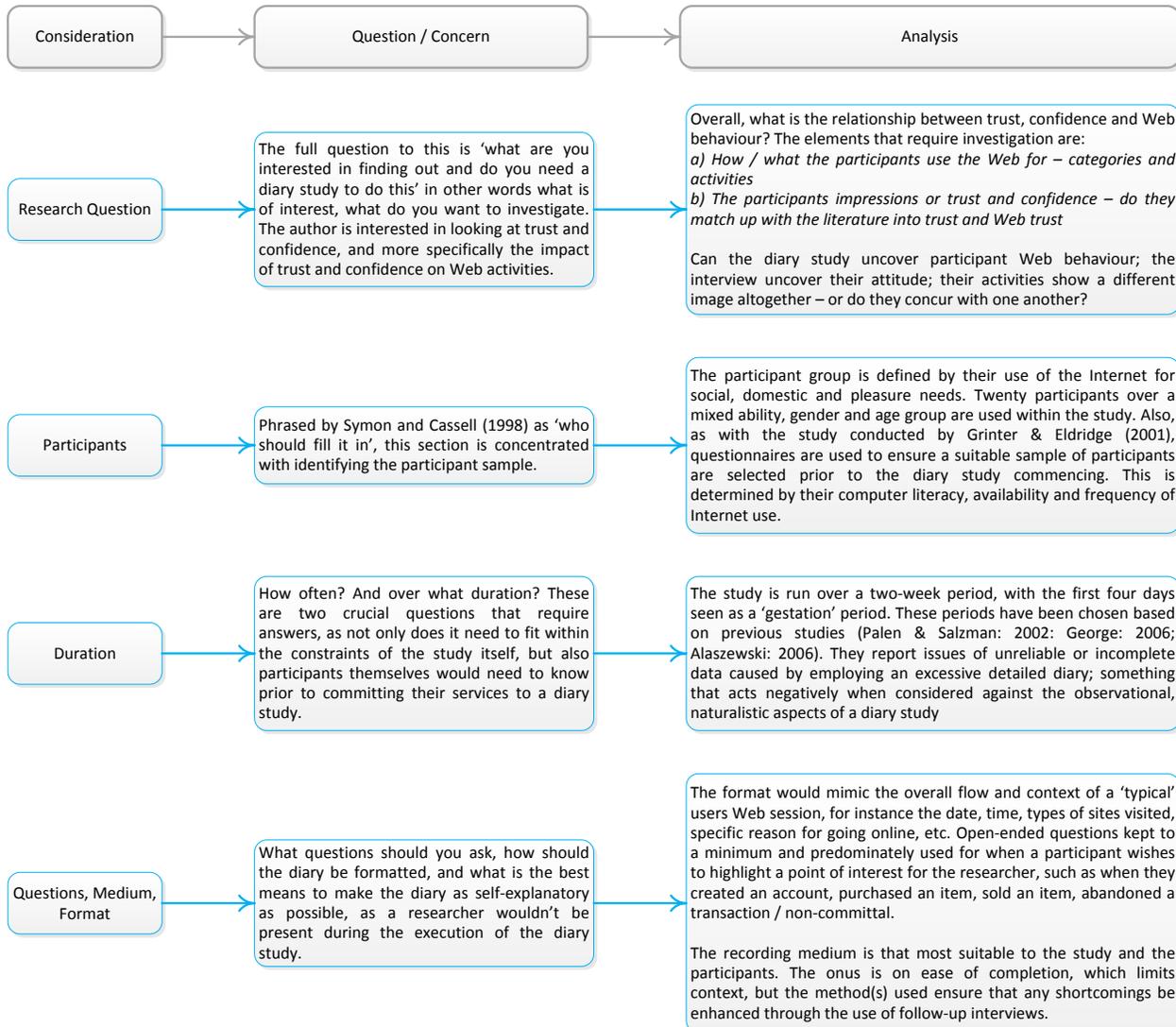
The researcher is adopting a diary study-interview approach akin to the works of Zimmerman & Weider (1977) due to its ability to support the study in a robust fashion. The diary takes the naturalistic format, although it does also contain small feedback elements such as check boxes. This approach has the benefits of potentially unearthing unexpected but fruitful results, as ‘qualitative diaries (if based on the interpretivist epistemology) do not pre-specify activities, events, attitudes or feelings but allow the respondent to record subjective perception of phenomena of relevance to themselves at that point in time’ (Cassell & Symon: 1998). This strategy is ideal for extracting hidden or subtle differences in behaviour or emotions; factors that can be further elaborated on or explained through subsequent investigation, i.e. interviews.

The author understands that there is an important need to get the balance between the data – naturalistic data capture and rich data capture. An onus on rich data capture impacts on the naturalistic element, and in turn impacts upon legitimacy, which can damage the overall study. As a result, the author moves to make the diary study as light, natural and memorable as possible (for instance ‘diaries to be completed after a ‘Web session’) with the true core, useful and rich data being extracted from follow-up interviews. The interviews can supplement where the diary falls short, and so working to keep diary data capture ‘limited’ but legitimate and valid. *Validity is the key*. Particular diary data capture techniques can influence the validity greatly and so restrict the usefulness and efficacy of the overall study. The paradox is, the better the measures, the more valid and accurate the data. The more the diary ‘gets’ in the way, it then causes the collection of unnatural data – data that is influenced / impacted by the ‘observation’ – and then no longer is the diary study data reliable (Adler & Adler: 1994). Aiming purely for data richness would impact upon the

validity; chasing naturalistic data can impact upon usefulness of the data that comes back out. The author suggests a mix between the two which can be further supplemented by follow-up interviews to provide richness / context where the diary alone falls short.

5.5.4.1 DIARY CONSIDERATIONS

The adopted approach is to use a naturalistic diary study format for the research. This section investigates the design considerations of the diary document. Symon and Cassell (1998) illustrate a set of practical considerations that should be explored *prior to* and *during* the design and implementation of a diary study. This analysis aims to ensure that elements of the diary document and the overall research itself aren't overlooked or neglected and, more importantly, that the use of a diary study as a research method itself has been fully considered. The author believes that the following eight considerations comprehensively encapsulate the research methodology, and provides practical guidance for the implementation of the diary study method.



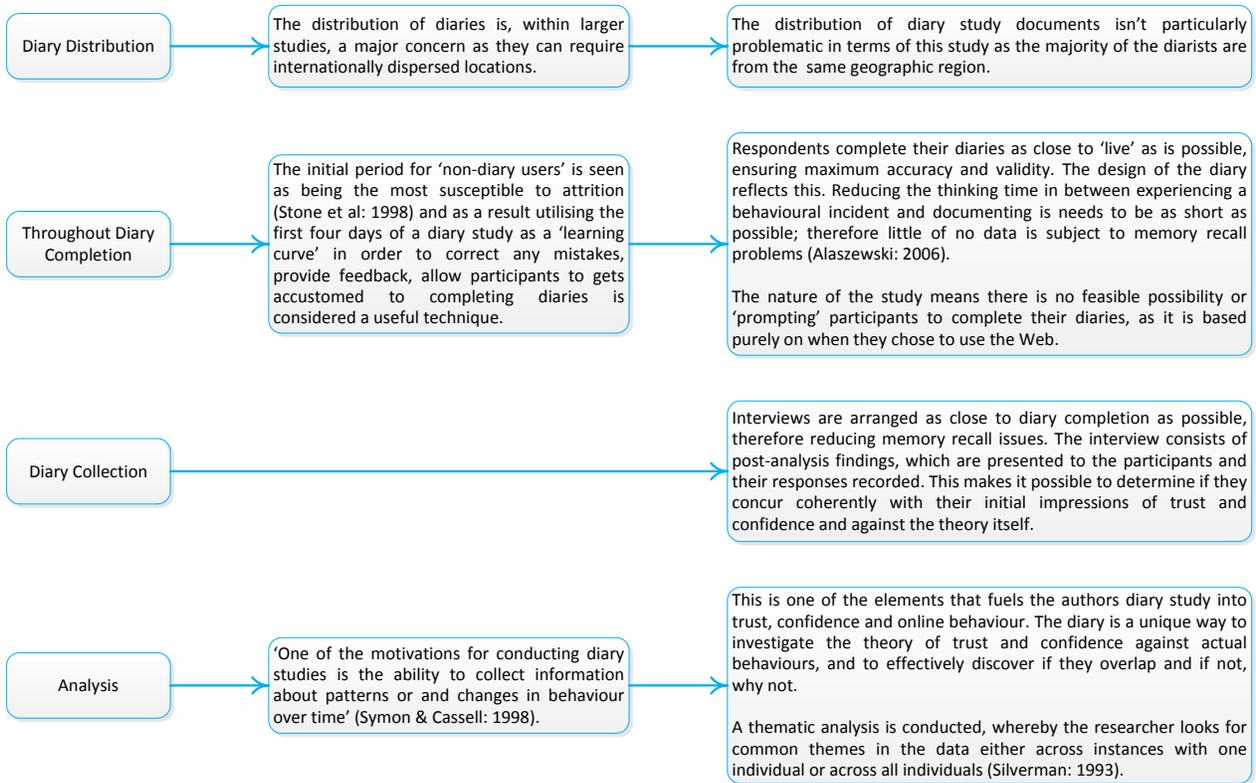


Figure 21: Diary Study Analysis (applied to the research)

5.5.4.2 PARTICIPANTS

Using the work of Palen & Salzman (2002), Grinter & Eldridge (2001) and Zimmerman and Wieder (1977), it was decided that the total number of participants would be capped at twenty for practical purposes. Each user alone will produce an rich amount of data for the study, and without this ceiling limit in place the likelihood of acquiring ‘too much’ is not only greatly increased, the usefulness of this ‘extra data’ is arguably marginal.

Work and/or study based Web use is omitted by the participant, as the focus is purely on social and domestic usage. The reason for the omission of this, is not only due to the ethical and third-party privacy concerns, but more importantly because such work or study related websites are used based on the instruction of the institution and are not therefore based purely on the participant’s free choice.

5.5.4.3 DIARY STUDY – NATURALISTIC

The initial stage of the research is a two-week diary study, based on a naturalistic approach. Lazar, Feng and Hochheiser (2010) strongly advocate that a two-week duration for a diary study is adequate, particularly when there is a moderate-to-high participant involvement. Grinter & Eldridge (2001) used a seven-day pe-

riod to gather data using physical note taking as the chosen method. Alaszewski (2006) points out that lengthy diary studies can impact upon the memory recall abilities of the participant, and also negatively impact upon the participants' commitment to the accurate and truthful completion of the diary.

The participants are required to complete the diary without any direct involvement or observation from the researcher. It is a requirement that the diary is completed in the participants' natural environment, using their normal equipment in their normal fashion. The participant is required to make a record of their actual Web usage with respect to the types of categories of websites they use, problems they incurred, decisions they made, impetus for going online, etc. The diary was designed around the taxonomy of Web uses as found within Chapter 2, Section 2.5.2 above.

The data capture techniques available to the users were listed as being pen and paper, or an online form (accessible via any Web-enabled device). The reason for supporting these methods and neglecting others such as audio, video, PDA's is due to their flexibility, portability, ease of use and predominately their ability to complement the unobtrusive, naturalistic aspects of the study. Similar justifications have been applied to negation of other data capture tools, such as PDA's (equipment, obtrusive, rigid) or audio devices (lack of context, equipment, potentially uncomfortable / embarrassing to operate).

5.5.4.4 IN-DEPTH INTERVIEW

The overall idea with the interview is for any shortcomings of the diary data can be matched or added to through follow-up interviews. The interviews are conducted shortly after the completion and analysis of the participants' diary, with the researcher focussing on the behaviours that relate to the arena of trust, confidence, or risk. The intention is to establish the participants' philosophies with regards to the Web, and to extract any measures they take or techniques they adopt in order to conduct particular online functions. In a similar fashion to the Zimmerman and Wieder (1977), the diary record is used during the interview to extract further information and elaborate on any particular instances of interest that may have been recorded.

Theoretically, the interview can make it possible to draw comparisons between the behaviour participants' assume they adopt, against the behaviours their diary studies illustrate – for example is the participant more risk aware than they assume or does their behaviour extend beyond what they are willing to consciously partake in. The interview component of the research method is handled in Section 5.7 below

5.5.4.5 SUMMARY

It is based on these eight considerations that the diary was developed around. Below is a succinct summary of the analysis of the diary design considerations, and it is from this that the pilot study was designed.

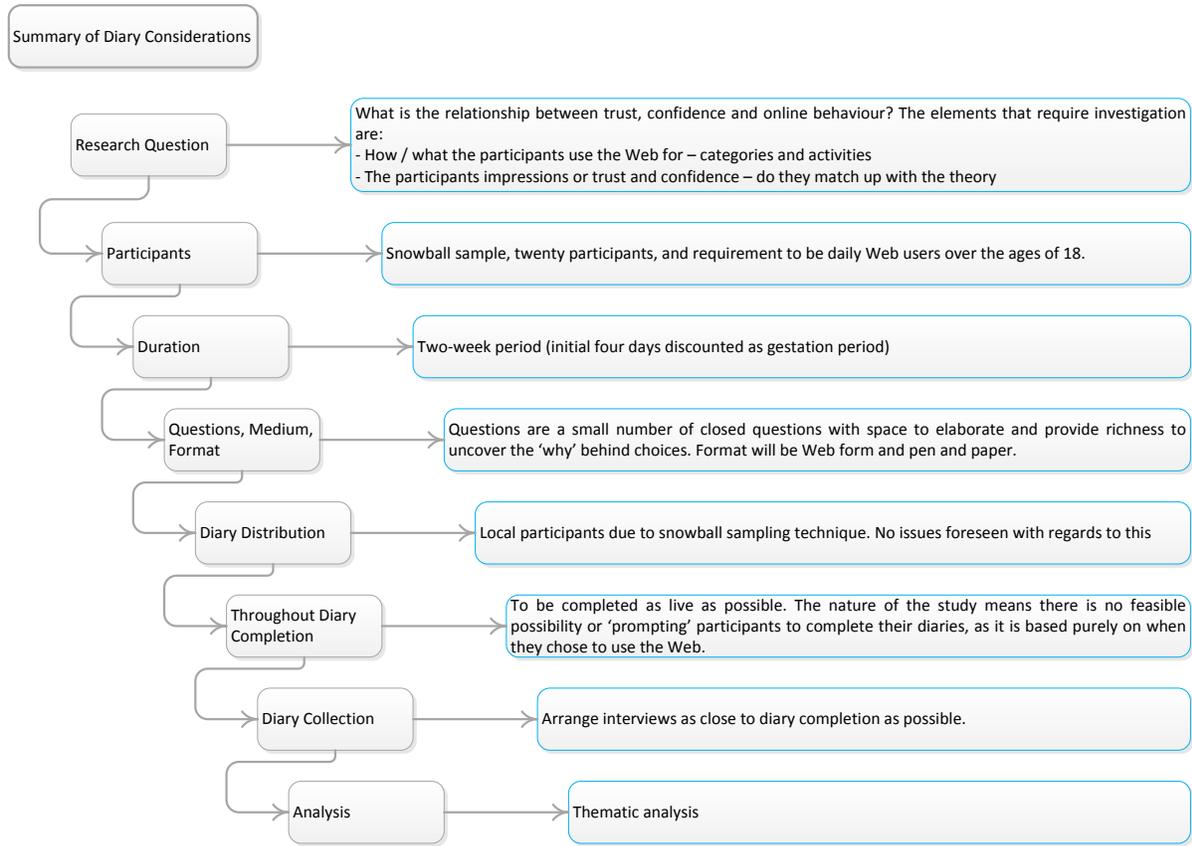


Figure 22: Summary of Diary Design Considerations (adopted approach)

The purpose of the ‘considerations’ is to effectively analyse and outline the key elements of the diary study, which then works to provide a structure up on which both the study and the document can be shaped. Based on the above, the intended research process can be understood in the diagram below:

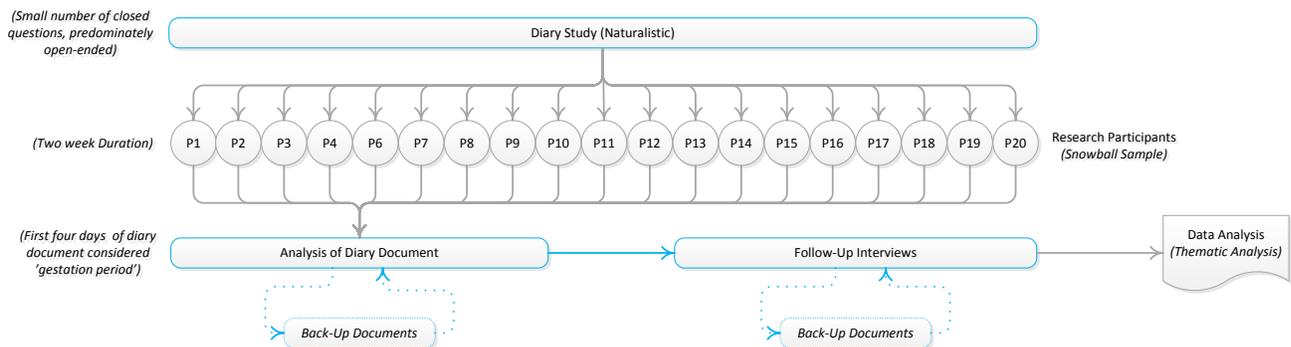


Figure 23: Diary Study Process Diagram

As explained in the top of this section (Section 5.5.4 above), a pilot study was designed and implemented based on the above analysis which gives the researcher a ‘dry run’ to test the efficacy of diary study as a research method as well as the specific elements that have been included within it. The design and detail surrounding the pilot study is discussed in the following section.

5.5.5 PILOT STUDY

Although a pilot study was designed and implemented, the processes that followed varied from the intended path. The pilot phase was originally anticipated to involve three participants (who would be excluded from any subsequent studies) to complete a two-week diary study, the diary is then analysed in preparation for the follow-up interviews. The process was expected to adhere to the following diagram

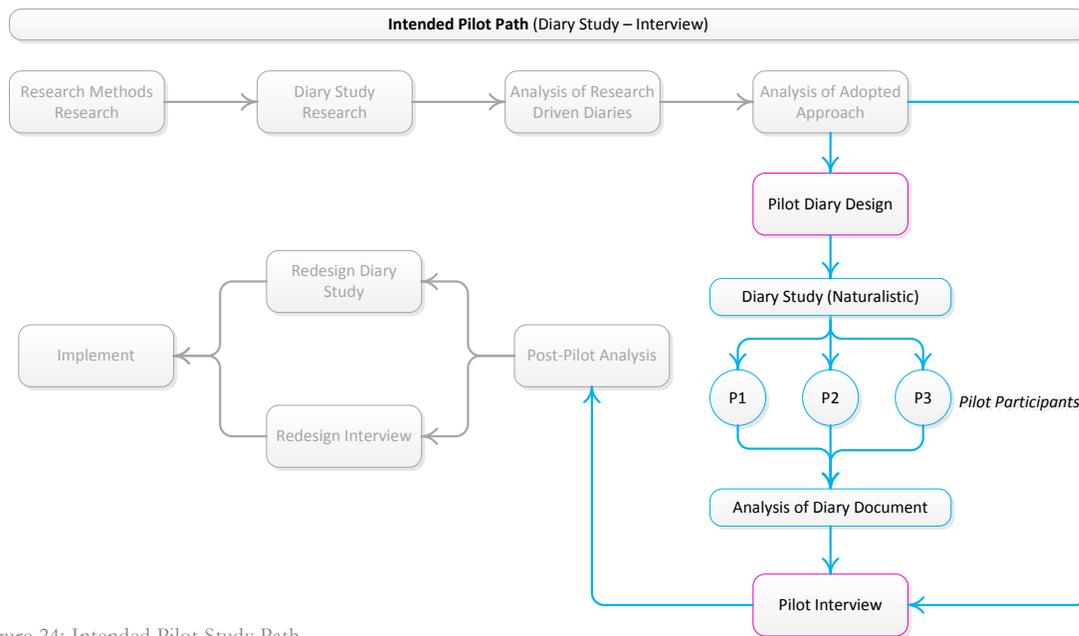


Figure 24: Intended Pilot Study Path

As the diaries were in the process of being completed (after week one), the researcher recognised an issue with the data which required for the diary documents to be completely redesigned. The author deemed it to be a fruitless process to design and pilot an interview based on the quality of the diary data that was being generated, therefore chose to focus attention on the diary redesign and not piloting the interview.

Supervisor: Dr. Maria Kutar

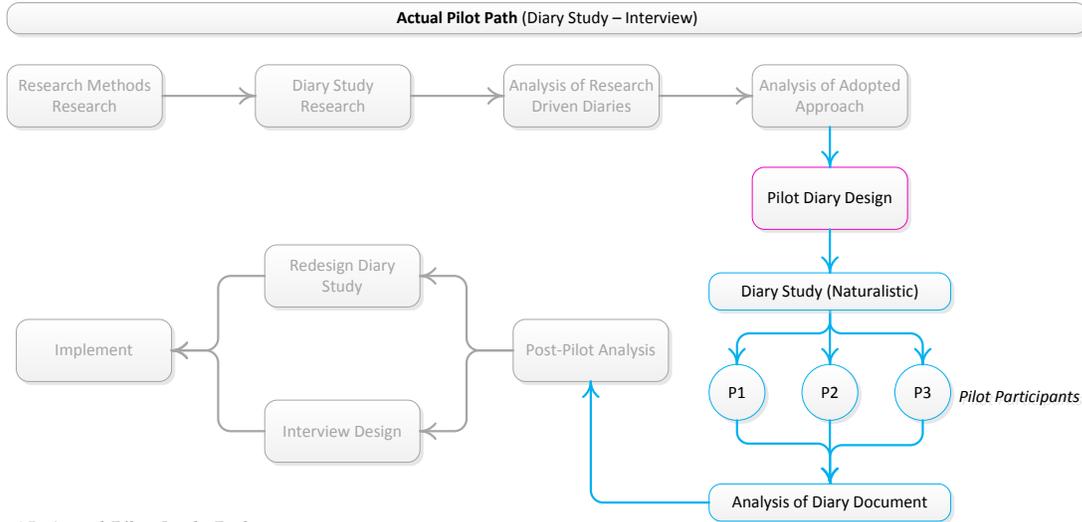


Figure 25: Actual Pilot Study Path

The above figures 24 (intended pilot path) and 25 (actual pilot path) show the differences between the initial *intended* diary-study design path and the *actual* diary-study design process.

5.5.5.1 PILOT DIARY DOCUMENT(S)

Figure 26 below shows the physical diary-study document that was designed and implemented as part of the pilot study. As is explained in the following section (5.5.6) the outcome of this pilot study was a complete overhaul of the design for the diary-study document.

Trust, Confidence & Online Behaviour

- Please complete the form below during or after each "Internet session".
- Aim to complete it as accurately as possible without it getting in the way of what you're actually doing on the Internet at the time.
- Make any notes for things that you find (or think that we would find) interesting about trust, confidence and online behavior; as long as there is enough information for you to be able to recall it during the discussion afterwards then that's all we are looking for. For example *"nearly created an account with xyz.com but cancelled. They wanted loads of random info so left it"*

Date:	Start time:	End Time:	Diary Completed: <small>(Please circle) During / Afterwards</small>
Location: <small>(Please circle) Work / Home / Mobile / Other</small>	Device Used: <small>(Please circle) Laptop / PC / Tablet / Mobile / Other</small>		

	General	Entertainment	Domestic	Social	Misc
Please Complete	Email	Searches	Product info	Shopping	Files (file downloads)
	Music (mp downloads)	Games (file downloads)	TV / Radio	Adult	Insurance
	Competition	Online Banking	Travel	Social Media (facebook / twitter)	Forums
	Blog	Other	Other	Other	Other

What was the main reason why you went online during this 'Internet session'? (please tick one)

The types of websites you visited during this 'Internet session'? (please TICK ALL that apply)

What was the last type of website you visited during this 'Internet session'? (please tick one)

4. This section is for where you can tick off particular 'trust / confidence' related actions and make a note of anything that you feel may be of interest to the researchers, for instance if you decided last minute not to purchase something off a particular company, etc.

Activity	Tick	Notes
Buy or bid on an item?	<input type="checkbox"/>	
Created, updated or logged into an account?	<input type="checkbox"/>	
Sent personal or financial information across the Internet?	<input type="checkbox"/>	
Saw a risk in something you were doing and stopped?	<input type="checkbox"/>	
Saw a risk in something you were doing but chose to continue anyway?	<input type="checkbox"/>	
Any website mistakes, errors, inconsistencies that made you change what you were intending to do?	<input type="checkbox"/>	
Other	<input type="checkbox"/>	

Notes:

Figure 26: Pilot Diary Study Document (physical version)

Figure 27 below is the electronic version of the diary-study document that was designed and implemented as part of the pilot study. The diary was created as a Web form using google docs, a bit.ly account and pseudonym was attached to the Web form to provide the participant with easy access. The Web form was accessible via a smartphone and/or traditional Web browser, the onus of the design was centred on speed of completion.

Trust, Confidence and Online Behaviour

1. Please complete the form below during or after each 'Internet Session'

2. Try to complete this form as accurately as possible, but don't let it get in the way of what it is you're actually doing online.

3. Make any notes for things that you find (or think that we would find) interesting about trust, confidence and /or your online behavior. As long as there is enough information for you to be able to recall it during the discussion afterwards then that's all we are looking for. For example "nearly created an account with [xyz.com](#) but cancelled. Didn't trust it as I've never heard of them"

* Required

Date *

Please indicate if you have done any of the following tasks during this online session?
There is space to make notes at the bottom, don't forget, you only need to write enough for you to be able to remember

Bid or purchased an item or service

Created, updated or logged into an account

Sent personal or financial information through a website

Saw a risk in something that made you stop

Saw a risk in something but decided to carry on

Any website errors, mistakes, inconsistencies that made you change what you were intending to do

Option 7

Other:

Start Time *
Roughly what time did you go online....?

Notes
Please write anything here that you feel maybe of interest to the researchers, for instance if you purchased something off a company thats new to you...

End Time *
Roughly what time did you stop using the Internet?

Diary Completed *
Did you complete this diary at the same time you were using the Internet, or did you complete it afterwards?

During

Afterwards

Location *
Where were you when you were using the Internet during this session?

Home

Work

Mobile (out and about)

Other:

Select all the types of websites that you visited during this online session? *
Select all that apply

Email

Blogs / Forums

Social Media (inc' Facebook, Twitter, etc)

Chat (eg MSN, Skype, etc)

Online Dating

News

Travel (inc' Maps, Holidays, Directions, etc)

Product or Service Information

Banking & Finance (inc' Insurance quotes, etc)

Employment & Careers

Health

Games / Software (inc' Downloads)

Music (inc' Downloads, Streaming, Podcasts, etc)

Movies / TV / Video Clips (eg NetFlix, YouTube, BBC iPlayer, etc)

Special Interest / Hobbies

Adult Material

Shopping (inc' Auctions, Buying / Selling / Bidding)

Gambling (eg Online Casinos, Bookmakers, etc)

Random Surfing / Other

Device Used *
What type of device was you using during this Internet session?

Desktop PC

Tablet

Laptop

Mobile

Other:

ms.

nt is neither created nor endorsed by Google.

[Abuse - Terms of Service - Additional Terms](#)

Figure 27: Pilot Diary Study (electronic version)

5.5.6 POST-PILOT ANALYSIS

The 'open' nature of the diary study itself warrants the approach for interviews to be handled in semi-structured manner, as it supports the balance of covering the key elements as well as providing the necessary freedom to research into any aspects of the participants' particular actions. The initial diary document used for the pilot study was designed in a way to be largely self-explanatory and highly supportive of the requirement of producing a data capture method that had marginal impact on the participants' typical behaviour.

Although simple and quick to complete, the central drawback was a heavy reliance on prescriptive data, data that provided very little, if any, detailed information – so was largely insufficient to support the research goals. The result, large volumes of very neat, very perspective data that provided minimal insight into participant behaviour and practically no input with regards to their attitude toward risk or trust. The diarists merely overlooked the more qualitative, open-ended questions and favoured completing the closed, tick-box style questions. Some participants chose to do this exclusively, thus supplying no qualitative insight whatsoever. Interestingly, although three very different pilot participants were used – different with regards to the nature of their Web use and device use – for this initial diary, the data produced from it was largely comparable with only minor variances were found. The efficacy of this data was restricted to only one of the research objectives; however in chasing this this objective, the other research goals were lost.

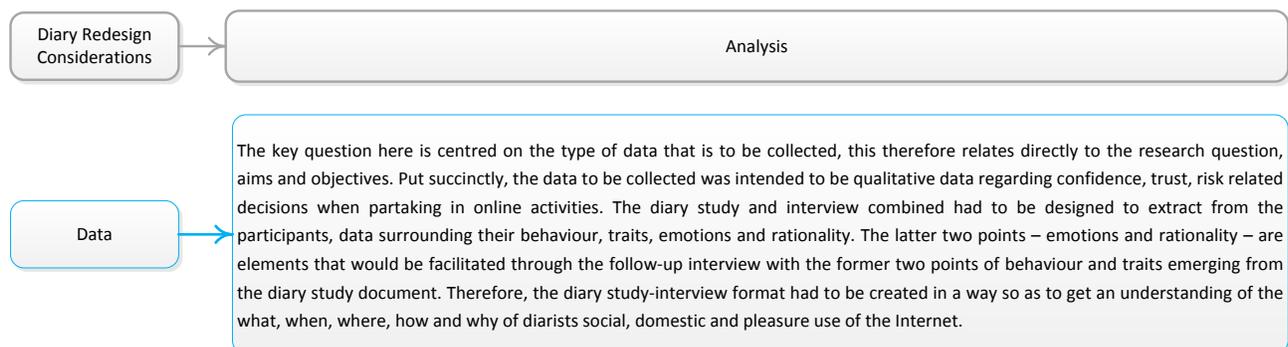
The pilot was designed with the focus being on a document that supported the capture of observational data, therefore eliminating as many impeding elements as possible. Although this was arguably achieved, it came at the detriment of insight and data richness, and in doing so was misaligned with the research question, aims and objectives. Taking into account the above, the outcomes of the pilot and the research aims and objectives themselves, the diary document required extensive rework in order to align correctly and deliver useful data. The recognition of this balance between insight and intrusive data capture must be maintained throughout the design as the pitfalls are not only significant, but they can easily render what has been captured as useless.

5.5.6.1 REDESIGN CONSIDERATIONS

It was recognised that the diary study pilot required extensive rework and the update had to ensure the following three basic criteria were met:

- Data outcomes that support research question, aims and objectives
- Gain insight on participants' attitude toward risk, confidence, trust
- Create a balance between capturing data richness without unnecessarily impacting upon participants regular behaviour

There were five key considerations that required addressing in a manner that complemented the above three requirements specific to the study; the data, diary format, guidance notes, briefing interview and feedback loop.



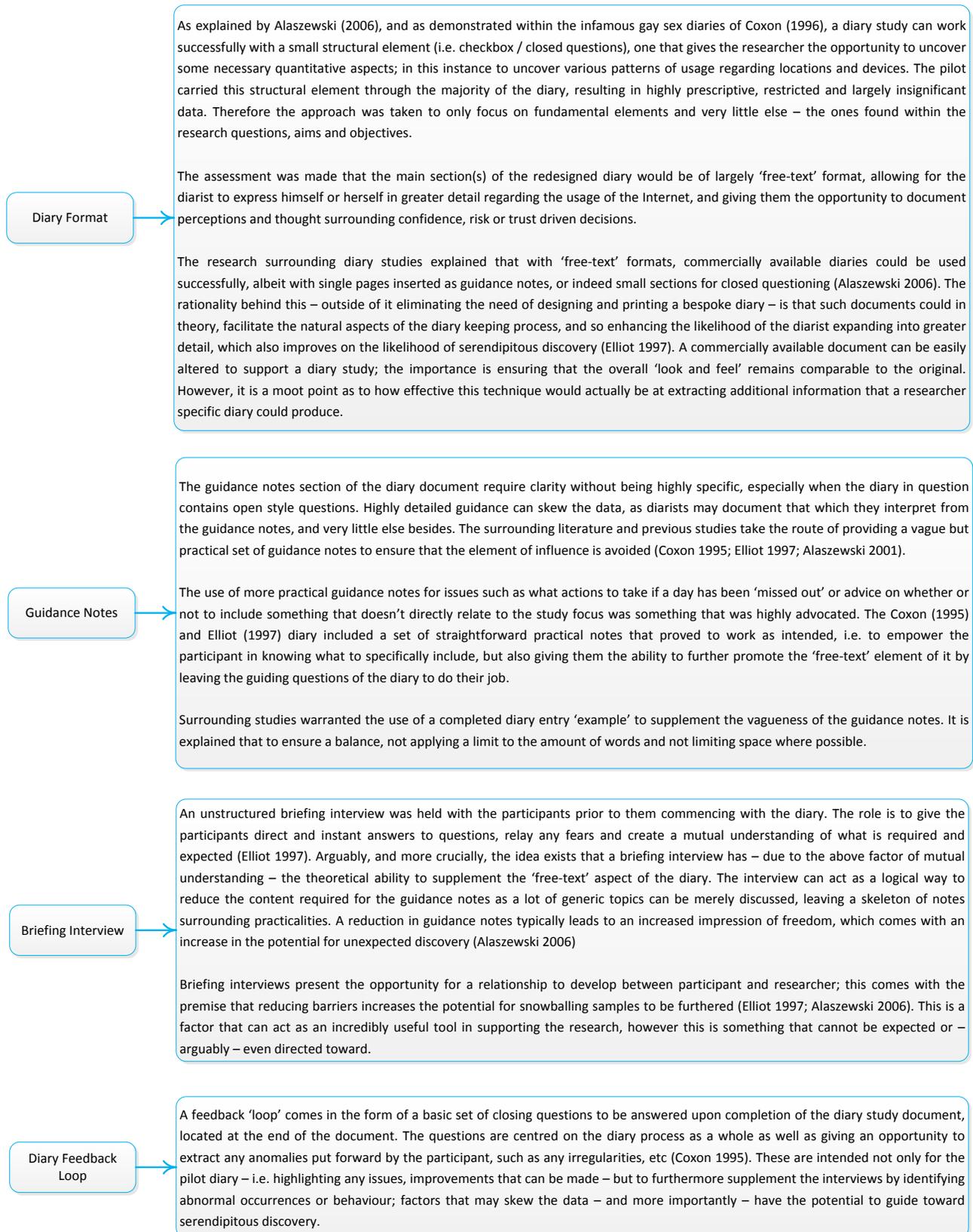


Figure 28: Diary Study Redesign Considerations (Post-Pilot Analysis)

5.6 IMPLEMENTED DIARY STUDY

The diary underwent two iterations from the pilot, one following the route of mimicking a commercially available document, and a second (chosen) diary designed specifically for the research. The content within each was largely comparable, but the formats differed for the purposes of convenience, aesthetics and informality. Irrespective of whether a commercially available document or research specific document was selected, the author ensured that the four following elements were to be included:

- Guidance notes,
- Structured data (checkbox questions)
- Guiding questions (core data, unstructured)
- Closing feedback loop questions.

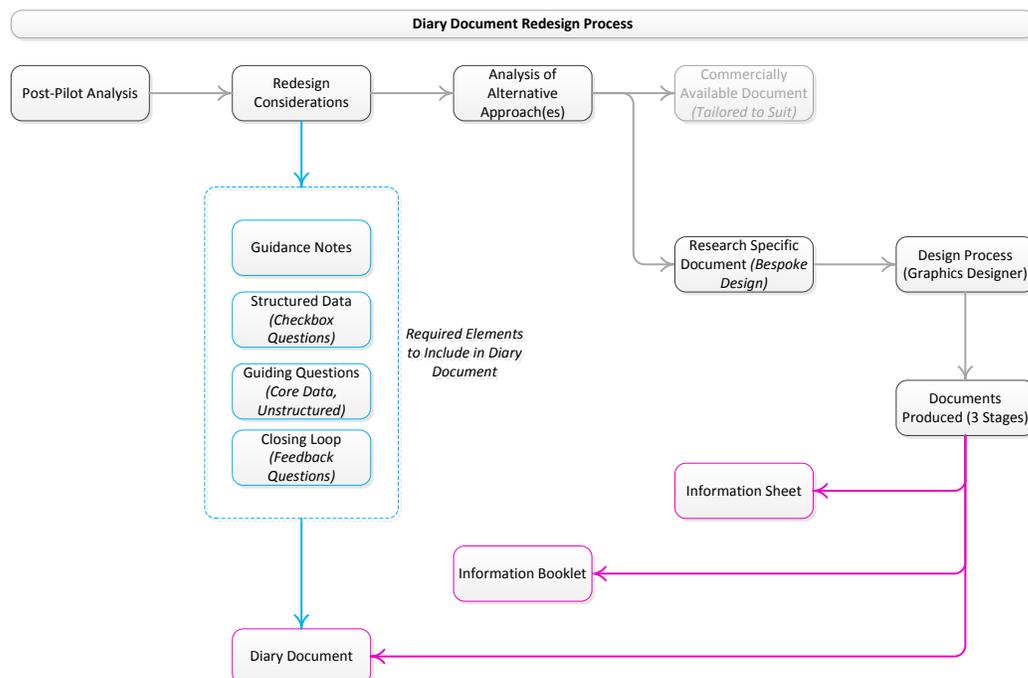


Figure 29: Diary Study Redesign Process

5.6.1 COMMERCIALLY AVAILABLE DIARY

This was designed to mimic a typical day-to-page A4 sized commercially available diary, and was edited to ensure that the content – guidance notes, closed / structured questions, guidance questions, feedback loop – was printed but with the look and feel of regular diary. Although this type of document has its benefits – and as the diagram above shows – this option was decided against in favour of a carefully designed bespoke approach. The reason supporting this is because it was felt that a bespoke set of documents would deliver greater flexibility and therefore can support the data gathering process better.

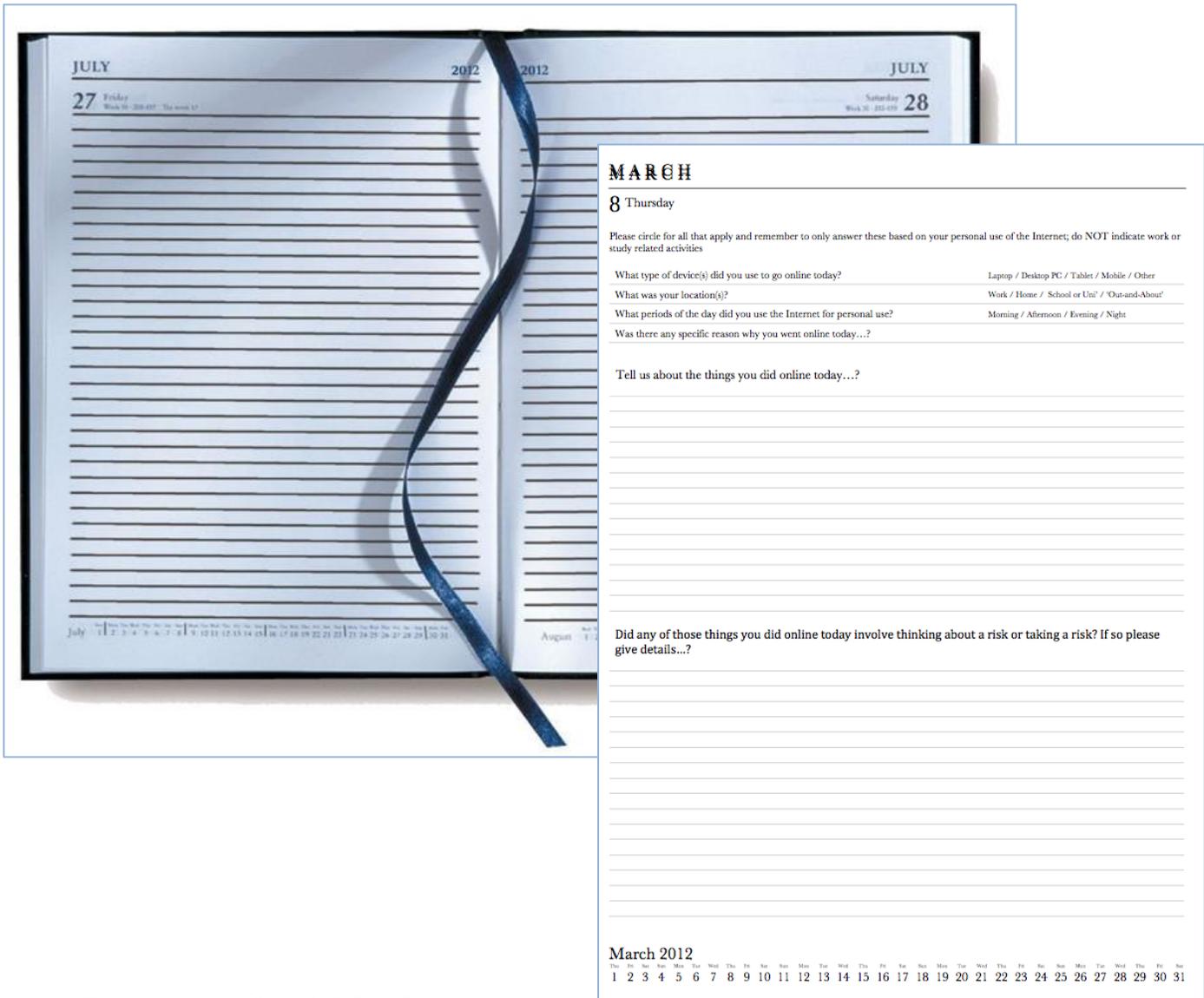


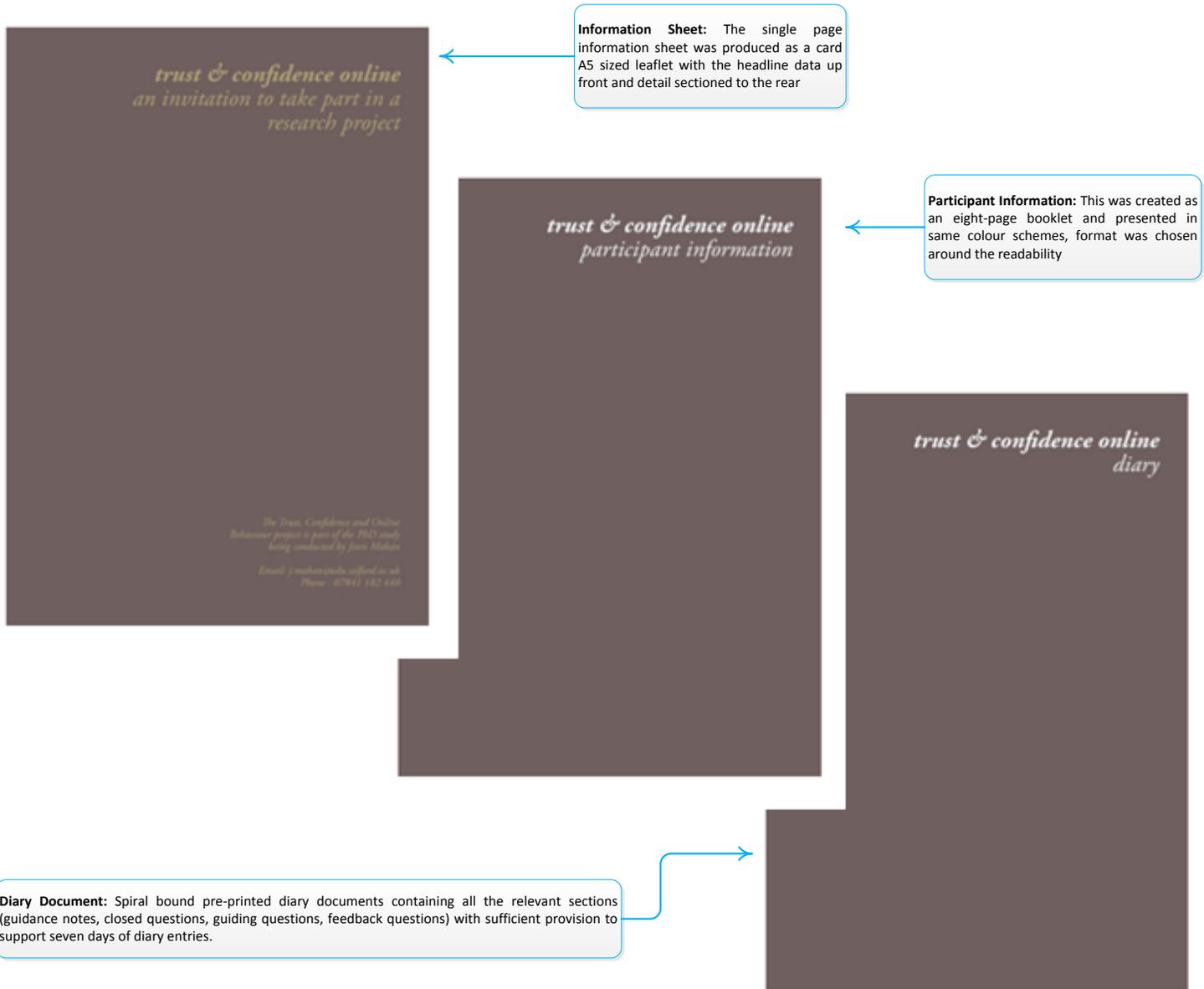
Figure 30: Commercially Available Diary Document

5.6.2 RESEARCH SPECIFIC DIARY

This was the redesigned document that was selected to carry the data collection within the study. Although the content was the same as found within the commercially available diary above, there were several key differences with this version. These are the use of fonts, colour choice, format, look and finish. Professionalism was favoured but with an onus on informality. Professionally printed A5 wire bound booklets were produced, by professional graphics designer Keabetswe Masalilia. The colours were selected for their relaxing qualities and the text was structured in a way to match the informal aspect (i.e. dropping capital letters).

5.6.2.1 DIARY DOCUMENTS

Three documents were produced to support the research:



(See Appendix A for hard copies of diary-study documents)

Figure 31: Bespoke Diary Documents (implemented)

5.6.2.2 DIARY CONTENTS

As explained within section 5.6 above, the redesigned diary included four main areas – guidance notes, structured data, guiding questions, feedback questions – which are illustrated below.

Guidance notes: A few things to remember before starting your internet use diary

Remember this is your diary and we're interested in finding out as much as possible about you and how you use the Internet, so please tell us as much as you can no matter how unimportant it seems.

Please be completely honest when recording your diary, otherwise it isn't worth completing. For instance if you haven't been online please don't make activity up, or if you downloaded files from an illegal file-sharing site then please say so. From our point of view, a diary with little in it is as significant as a full one.

Don't worry about spelling, grammar or your neatest handwriting; just try to write as clearly as possible using a pen.

Try to complete your diary every evening or as

to fill the diary any later than one day after the entry was due, e.g. don't try completing Monday's diary on Wednesday.

Please don't give up if you miss a day or so. Just continue on from the next day that you are able to fill in and leave the other pages blank.

If you can't fit everything into one page, then please use the additional notes sheets at the rear of the booklet and indicate the date of the activity. After completing the diary, please remember to complete the questionnaire on the final page of this booklet.

Thank you!

If you have any questions please contact Jiten Makan at jiten.makan@open.ac.uk

Guidance notes
The need existed to keep the guidance notes robust, practical and informal as possible. The premise is to keep these notes focussed on practicality, rather than direct instruction as it reduces the chances of researcher bias. The 'vagueness' facilitates for serendipitous discoveries to be documented.

Structured Date (Checkbox Questions)
To support the research aims and objectives, minor pieces of structured data were required on each diary day. The information was largely comparable to that used within the pilot. These work to provide answers for the when, where and how aspects of the research. (Tick box options were used to enable quick completion of this section.)

Guiding Questions (Core Data, Unstructured)
To support the requirement for the data collection technique to be as unobtrusive as possible, the premise was followed to use as few guiding questions as possible and to keep the language clear and simple. This section focuses on the 'what' element of the research; the 'free-text' and interpretability ensures that not only can insight be gained, but there is – theoretically at least – space for unexpected discovery.

Closing Loop, Feedback Questions
There was four basic questions that were identified from the Coxon (1995) diaries, which were tailored to this research, but still they remained comparable in spirit with Coxon's work.

Day 1 of 7
Remember to complete this diary based upon your personal use of the Internet only (social, domestic and pleasure). Don't include work or study related activities anywhere within this diary.

Date: _____

What type of device(s) did you use to go online today?
 Laptop Tablet Other _____
 Desktop PC Mobile

Where did you use the Internet today?
 Work School, College, University
 Home 'Out-and-Around'

What periods of the day did you use the Internet?
 Morning Evening
 Afternoon Night

Was there any specific reason why you went online today?

Did any of those things you did online today involve thinking about a risk or taking a risk? If so, please give details...

Questionnaire

Was what you did online during this diary period typical of your normal activities or did you do something out of the ordinary?

Is there anything you wish to tell us about regarding your Internet usage and behavior around risk?

Are there any diary entries or details that you wish to clarify? If so please give details...

How did you find the process of diary keeping?

Figure 32: Bespoke Diary Document(s) Contents

5.7 INTERVIEW

The interview part of the research is – as shown in blue on the diagram below – one of the final stages of the overall path to developing a robust research method to support the study. The previous parts of this chapter have covered the detail of the grey sections, the research method, design, pilot and redesign.

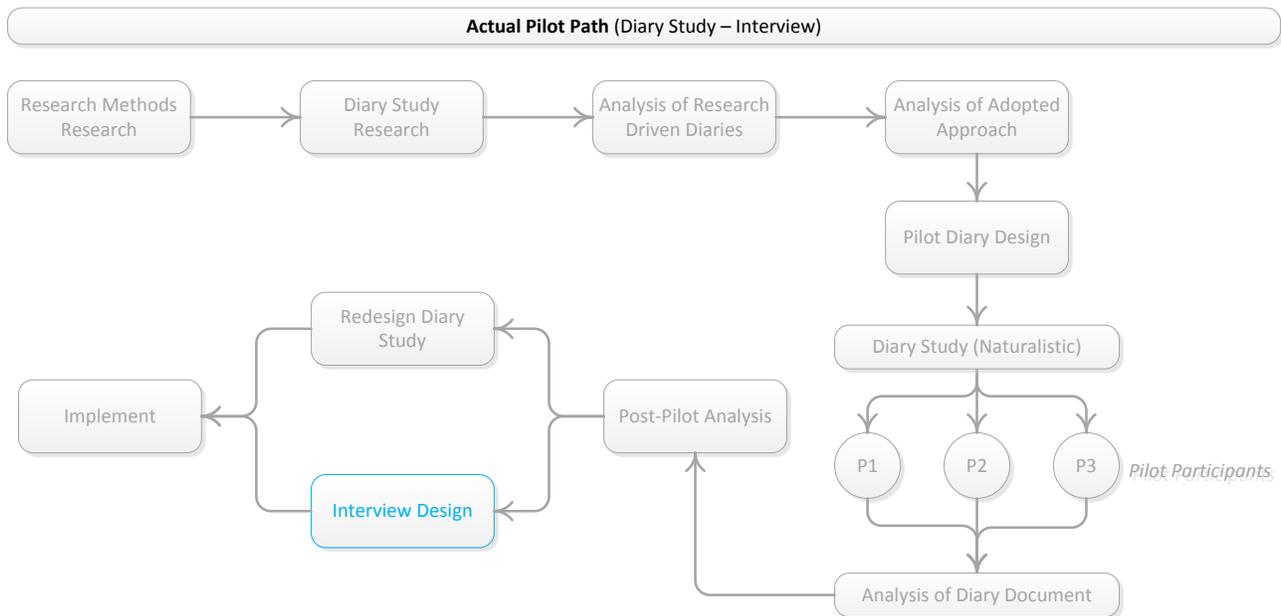


Figure 33: Follow-Up Interview Design Approach

5.7.1 INTRODUCTION

The role here is to outline the justifications behind the diary study interview questions, the structure, how it relates to the literature, how it correlates with the research question, the research aims and the research objectives. The follow-up interview represents a critical data collection stage. Two key benefits can be achieved through the inclusion of the interview:

- It allows for greater data richness to be gained
- It enables the diary study requirements to be loosened, which in turn supports the idea of a diary that is as unobtrusive as possible, maintaining a focus on validity and legitimacy.

The interview questions had to be formulated in a manner that supported the research goals, but equally as crucial (Gillham 2005), the interview process had to be open and fluid enough to facilitate the possibility of uncovering unexpected data – referred in the literature as serendipitous discovery (Symon & Cassell 1998). As the interview takes place after the diary process has been completed, and after the diaries have been collected, backed-up and analysed, the *gap* between these phases needs to be minimised as much as is feasible so to reduce / eliminate problems with memory recall (Elliot 1997; Symon & Cassell 1998; Alaszewski 2006). A semi-structured interview process was used, one with sufficient freedom and structure to meet the requirements of this combination of ‘research specific questions’ and ‘diary specific / serendipitous questions’.

To support the above, the interview was designed from the outset with these and various other contingencies in mind. Consideration was applied to the specific ordering of the questions to ensure that core elements were covered; ensure the interview didn't extend beyond what was necessary; ensure insight was gained without repetition; ensure consistency between participants. Equipment concerns also played a role, and due to the nature of the interview – and in particular any unexpected elements – a voice recorder, laptop and/or smartphone was used throughout as it is understood to better facilitate the process (Gillham 2005).

5.7.2 STAGES OF QUESTIONS

Having recognised that three basic areas of questioning existed, the approach was to separate these out into sections and ensure the format complemented the requirements explained above. The three areas were identified as:

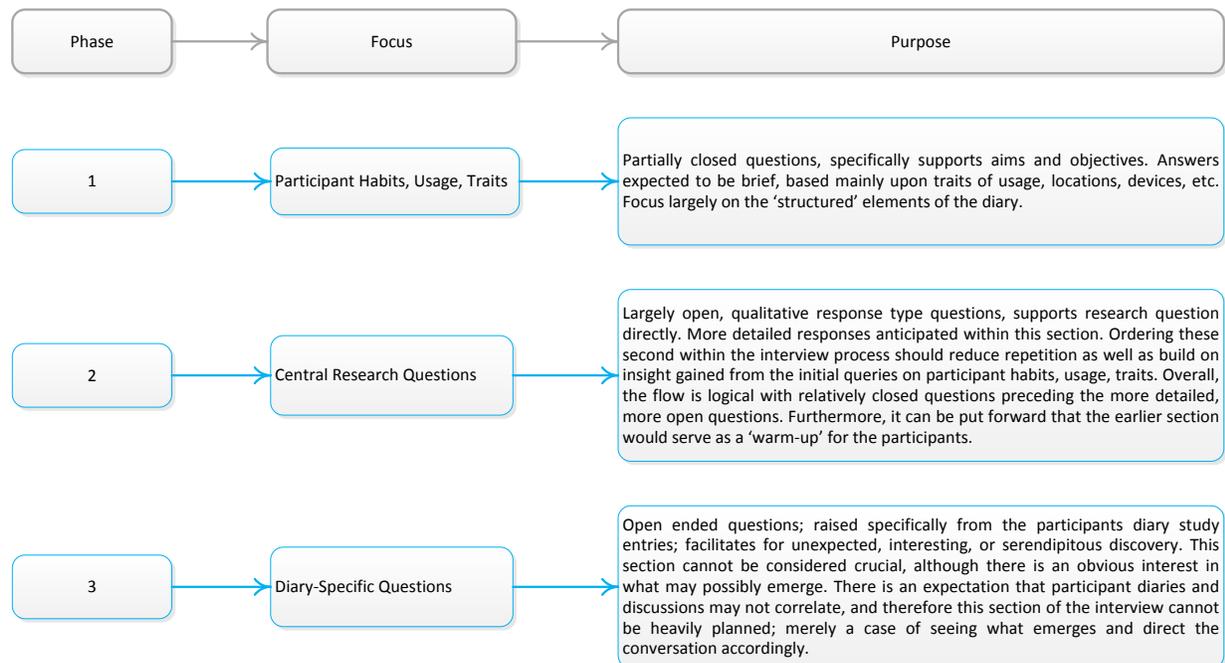


Figure 34: Follow-Up Interview Question Phases

The provision of meeting the research goals and the nature of the questions – i.e. open / closed – were the two key details that were considered, and so those questions thought to be most important to the research goals were placed higher up in the order. Questions with responses that were anticipated to be closed or brief were placed first, followed by those more with more open and detailed answers; referred to as the *central research questions*. The final part, *diary specific questions*, carried the expectation of being more interesting as opposed to being critical to supporting the research questions. Also, these questions are to be formed directly from the participants' individual diaries, therefore a possibility exists for these questions to be unique, or at least highly specific.

5.7.2.1 STAGE (1 OF 3) PARTICIPANT HABITS / TRAITS / USAGE

The purpose of this stage of questioning is to uncover the behaviours of the participants; factors such as their typical usage periods, devices, habits of use such as location, activities, etc. The semi-structured section of the diary study booklet covers these issues (see section 5.6.2 above). As the responses were checkboxes and covered an entire day of Web use (not just a particular task that was performed) there were bound to be overlaps, and these overlaps would mean it is not possible to identify more specific, granular data, such as whether the participant uses a specific device or location for a specific activity. The importance of identifying if such traits exist is that knowing if a participant uses particular devices for particular tasks can – potentially – give an impression to the participants' attitude toward trust, confidence and/or risk.

The questions extracted to go into this section of the interview are:

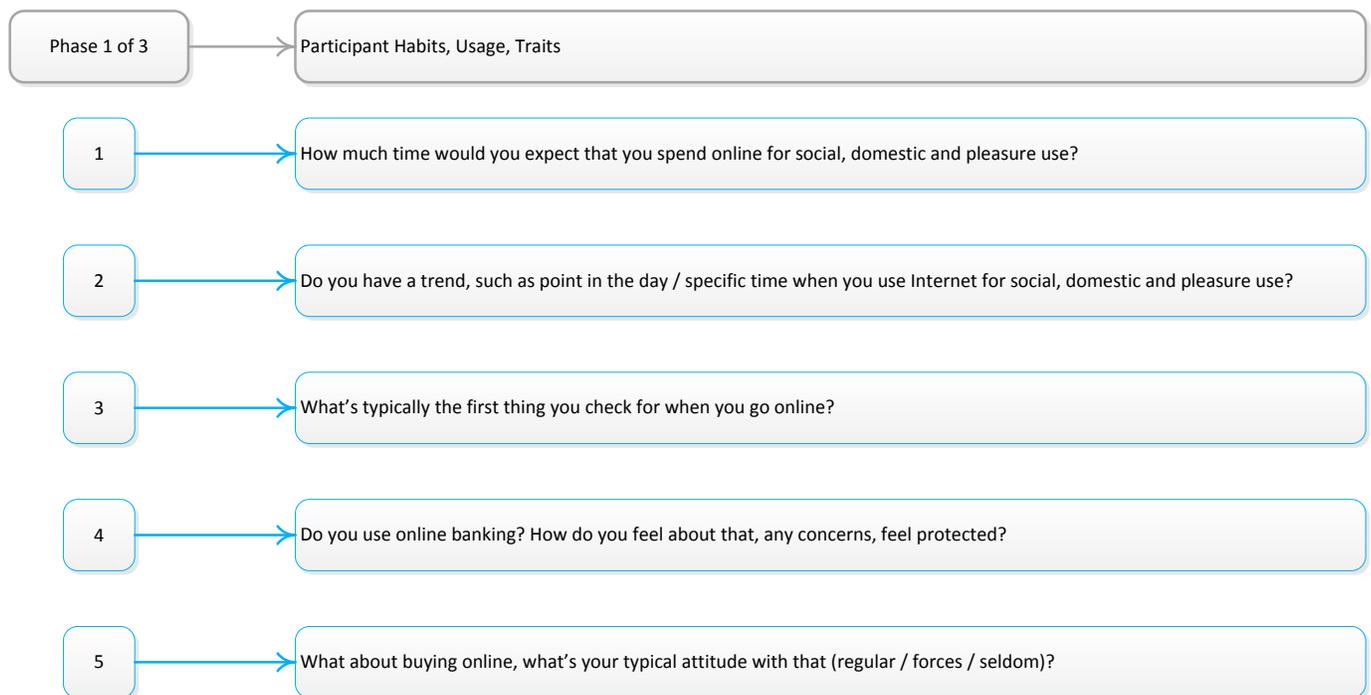


Figure 35: Follow-Up Interview Questions (Phase 1)

5.7.2.2 STAGE (2 OF 3) CENTRAL RESEARCH QUESTIONS

Central research questions require more thought and more detailed answers. This section is intending to cover issues that form a part of the overall research focus in addition to the aims and objectives. The elements used within this section emerged almost entirely from the literature on social capital, trust, confidence and risk.

Five core questions have been identified as:

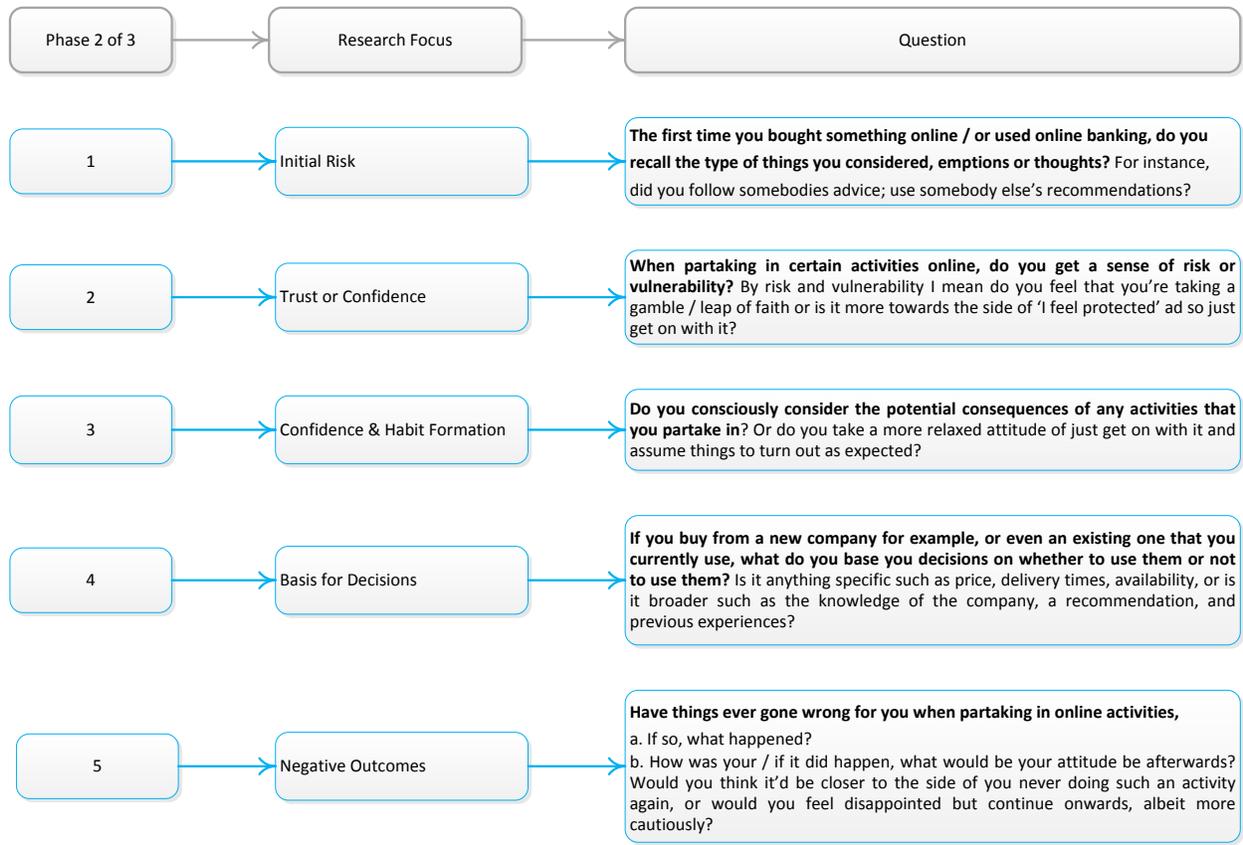


Figure 36: Follow-Up Interview Questions (Phase 2)

The role of these questions is to identify the participants’ logic, emotions, ideas, rationality behind particular decisions that they have made – or indeed, refuse to make – within certain online situations. These have been extracted from the core of the literature within the areas of risk, trust, confidence, social capital and online behaviour, and share the same feature in that they contend with the disparities between the terms of confidence and trust. Through their responses, it should be possible to uncover – from a literature perspective – if the individual was understood to be in a trust situation or indeed a confidence situation. (A detailed justification for the central research question has been placed in the subsection below).

Characteristics	Trust	Confidence
What is it about?	Decision-Making Belief Uncertainly	Decision-Making Predictable outcomes Competence
Requirements	Integrity Benevolence Uncertainty Vulnerability Competence Reciprocity	Predictability Competence

Risk	Required Considerable	Not necessary Can be mitigated from
Breakdown / Failure	Internally attributed Regret Once broken, cannot be repaired More damaging than the advantage being pursued	Externally attributed Chance Measure can be taken Unfortunate
Parties	Extended to other people only	Extended to people, systems, objects, governments, organisations, entities
Key attributes	No control No influence No protection No guarantees No assurances Extended on the belief of positive expectation Decision is always consciously considered	Measures of protection Risk can be mitigated from Extended on the belief of positive expectation Decisions can be habitual

Table 10: Trust & Confidence Characteristics

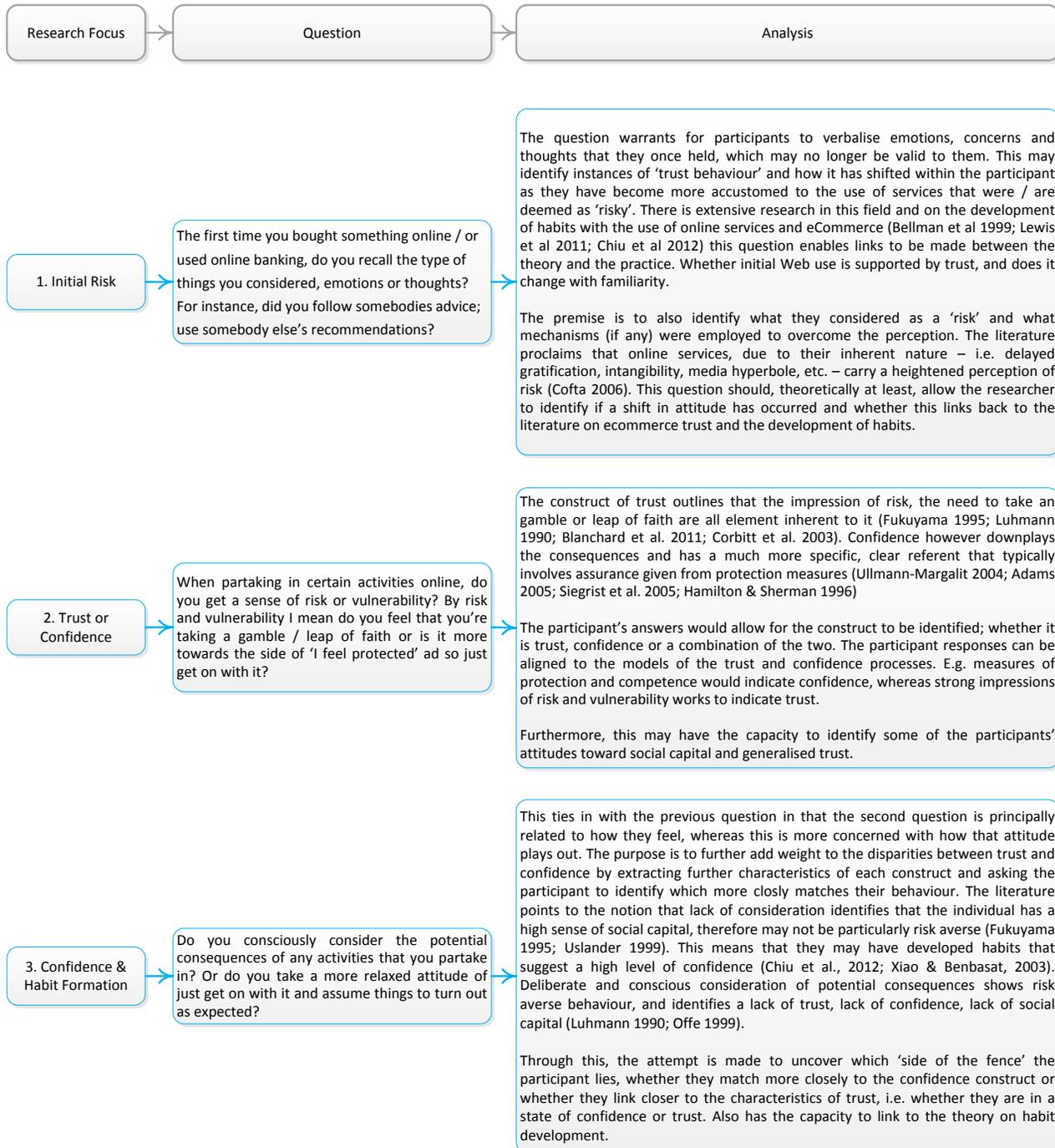
This table (table 10) was initially shows in section (4.2.2) and its purpose was to clearly show the overlapping nature of trust and confidence but more importantly to highlight the differences between the two. The central research questions have been designed around the literature understanding of the trust and confidence construct; thereby the answers given by the participants should – in some way at least – allude to whether decisions related to Web use are based on trust or indeed by confidence. For instance, decisions influenced of shaped by the knowledge of guarantees are confidence driven as not only are guarantees a legitimate part of confidence, but they cannot exist within trust.

5.7.2.2.1 CENTRAL RESEARCH QUESTIONS – JUSTIFICATIONS

The subsection provides justification for the central research questions by explaining the rationale behind the choice of query, its relationship with the research and will also provide consideration of the ordering of the questions.

The central research questions are designed to shed some light on ‘the why’ people do the things they do on the Web, or indeed the things they don’t do on the Web. The terms are used interchangeably, yet as pointed out by Luhmann (1990) numerous others, trust and confidence exist as two closely related, albeit separate constructs (Cofta 2007; Grönlund & Setälä 2011; Jackson & Bradford 2010; Siegrist et al. 2005; Adams 2005). The premise behind the choice and format of these questions are to differentiate which construct is in play when participants use the Web for particular activities, especially those activities considered to carry a heightened perception of risk (Samadi & Yaghoob-Nejadi 2009; Slyke et al. 2004). The eCommerce and Web research literature proclaims widely that the crucial construct is trust (Chiu et al. 2012; Kim et al. 2008;

Yousafzai et al. 2009; Ha & Stoel 2009); literature into social capital, confidence, trust and risk would in fact outline that the reality resides much closer to that of confidence and generalised trust (Putman 1993; Fukuyama 1995; Offe 1999; Uslaner 1999).



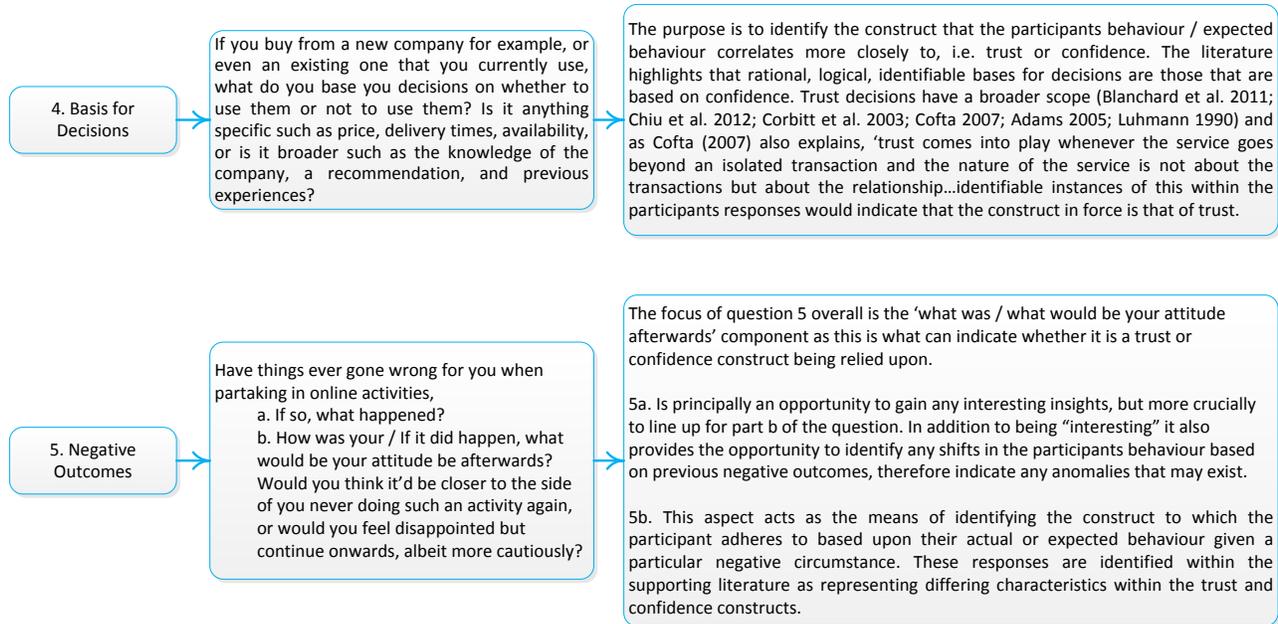


Figure 37: Phase 2 - Question Justifications and Analysis

5.7.2.2.2 CENTRAL RESEARCH QUESTIONS - SUMMARY

This, the second section of the interview process is arguably the most crucial of the three in that it is founded solidly upon the literature and focuses toward answering the research question, aims and objectives throughout. Evident through the above justifications, the inclusion and phrasing of the questions has been approached carefully so as to not create any unnecessary ambiguity in the answers. The intricacies of the trust and confidence constructs are already closely aligned in the literature (Morgan & Hunt 1994; Moorman et al. 1993; Hardin 2004), and therefore the language used within the questions has had to ensure that as much distance could be placed between the two constructs to ensure that 'grey' areas were presented as 'black and white'.

The role of this element is to identify the construct that the participants employ when involved in 'risky' Web activities. Conscious steps are made to indicate the constructs that are utilised during their initial encounters with such activities – whenever that may have been – to identify if a shift has emerged as the participant becomes more accustomed to their use. The research would suggest that there is a noticeable shift from the initial interaction and use of such a website (Xiao & Benbasat 2003; Gefen et al. 2003; Gefen et al. 2008) and furthermore it has been identified that as 'habits' emerge, decision-making processes shift also (Chiu et al. 2012).

Five questions are used to ensure that the disparities pulled from the literature between the constructs are approached in a solid manner to indicate comprehensively whether trust or confidence is the facilitator for Web activity. A single question to expose which particular construct is utilised is not only insufficient to base research findings on, but more crucially within this instance – due to the pervasive and multidimensional nature of trust and confidence (Uslaner 2002) – it would be necessary, logical and proper to go to a

much greater depth with a wider scope. Therefore, each of the various angles available to consider trust and confidence from an online perspective were considered to ensure comprehensive and robust approach to the research was taken.

5.7.2.3 STAGE (3 OF 3) DIARY SPECIFIC QUESTIONS

This phase of the process is the third and final stage and has been located at the end of the interview. As this section is expected to be largely open-ended questions are formed from the participants' actual diary study. There was the initial expectation of there to be little consistency between the individuals. The open-ended aspect of the queries also presents the challenge of not only directing the questions / conversation, but furthermore anticipating the answers.

This part of the interview process is handled in the least formalised way in terms of structure as it is governed by the discussion being held. This 'freedom' provides both benefits and potential drawbacks. There is the potential for unexpected discovery through the use of this technique, also the freedom offered by it allows for further data to be uncovered as the interview is free to flow in the direction deemed appropriate at the time. The downside however, is that the 'freedom' comes with it the inherent danger of each participant verbalising issues that are unique to them; not only does this impact upon the ability to generalise, but on the ability to even identify parallels. A third element that further complicates this capacity to draw parallels comes from the source of the interview queries. As the questions within this section originate from each participants specific diary, it would be naïve to expect each document would contain aspects that invite further questioning. There is also a distinct possibility that the documents themselves would contain data that is specific to a particular diary; therefore a blanket set of questions cannot realistically be implemented to satisfy the criteria of this section.

In understanding these contingencies, the author is using the opportunity for the participant to discuss issues that may not be apparent / indicated within the diary. Considering the above, considering the aspect of freedom, considering the ability to shift direction with the interview – the possibilities for serendipitous discovery is not only theoretically present, but supported.

Overall, the researcher needs to recognise the key issues with this technique, and in acknowledging them, to design and support the interview process to complement, such as using voice recording equipment to allow the conversation to flow as naturally as possible throughout.

5.8 SUMMARY OF METHOD

This provides an account of practical aspects of the data gathering process, how the research was implemented and the specifics regarding duration, sampling, location and recording devices, etc. The previous chapter explains the choice behind the research approach, the detail regarding the design and the considerations applied to ensure data validity and alignment to the overall research goals.

The initial subsection will cover the basic profile of the participants to uncover the sampling process, which will be followed by details of the data gathering process, such as the methods used, how it was handled, the duration, the questions that were asked, etc. The final aspect will be the specifics of the actual participants selected for the study, such as demographic information, the codenames applied and any interesting characteristics that were brought to light before the launch of the data gathering process.

5.8.1 RESEARCH METHOD

There were two tools used to gather the data for the research, the first being a diary study and the second being a follow up interview.

The diary study-interview technique was used as the method for data collection. A diary was initially designed and implemented as part of a pilot – in a Web based and paper format – which was completed by three individuals over a two-week period. This pilot diary study, was designed to be as unobtrusive as possible to the participant, to ensure that data validly remained. However, although this unobtrusive element remained, the data that was generated as a result was fundamentally unusable, as it merely created a statistical list of uses and little to qualitative data.

Following the pilot the diary was redesigned, using a small amount of closed questions, with the bulk of the data set to emerge from two guiding open-ended questions (Section 5.5.6 above). Upon completion, return and analysis of the diaries, the participant would then be interviewed using the semi-structured approach. Interviews would be recorded and later transcribed verbatim discourse.

A model of the research process is as detailed within the following diagram

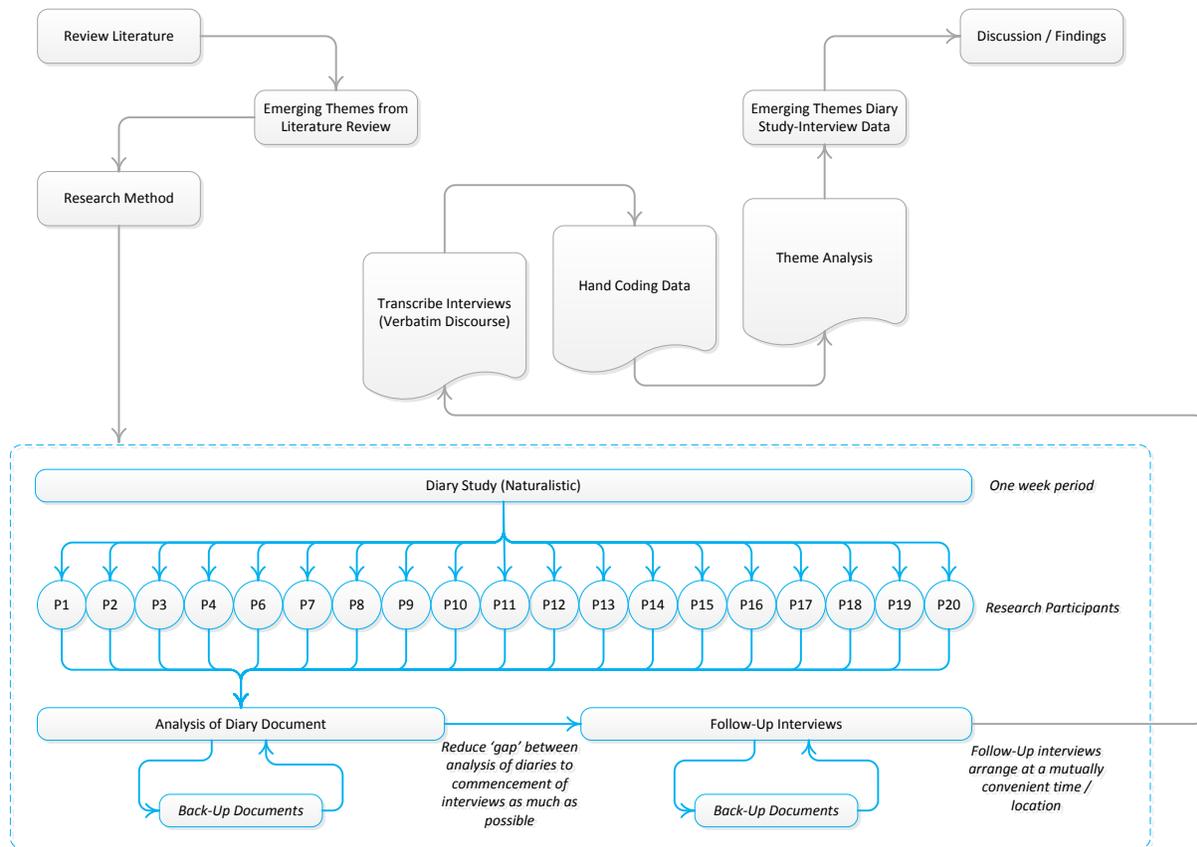
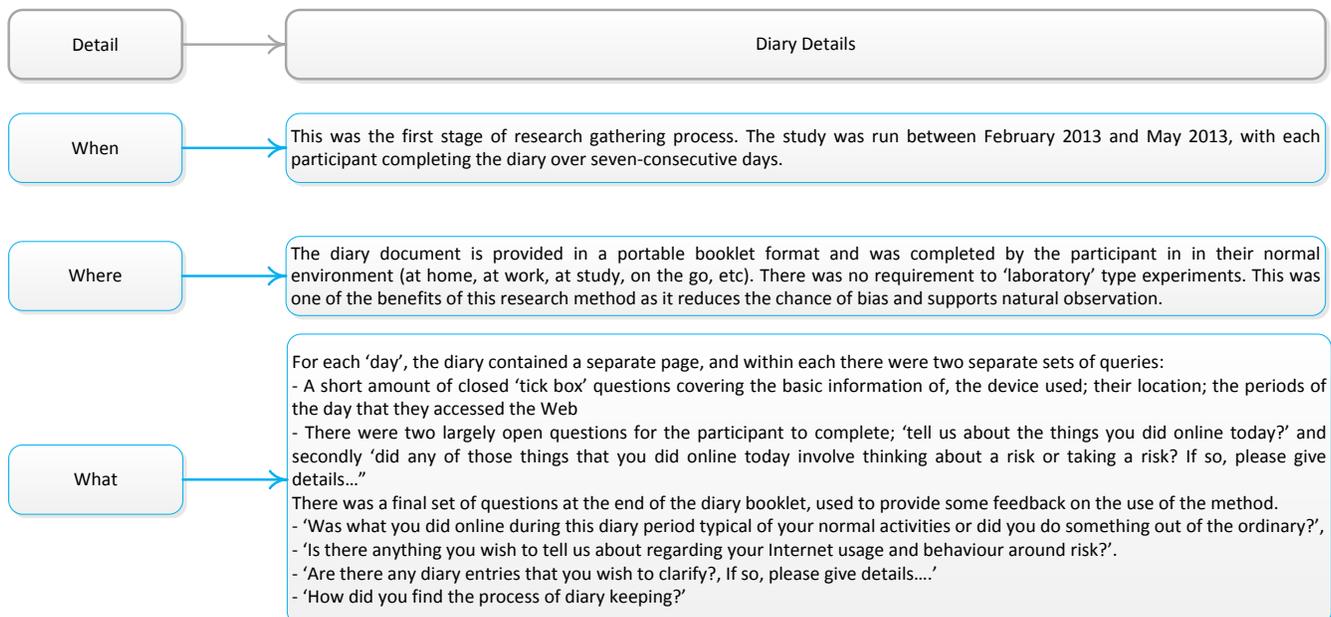


Figure 38: Research Approach Diagram

All the diaries were completed between February 2013 and May 2013, with follow-up interviews held at the most mutually convenient time at a location that was chosen by the participant.

5.8.2 DIARY STUDY

This below provides the core diary study details, by looking at four points of when, where, what and why.



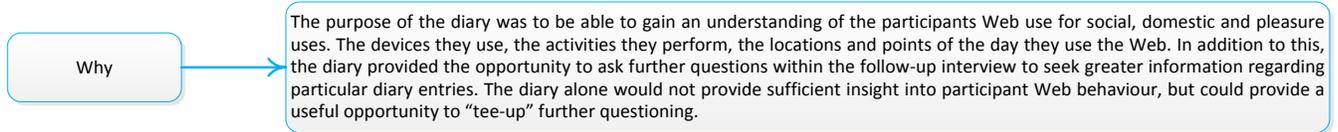
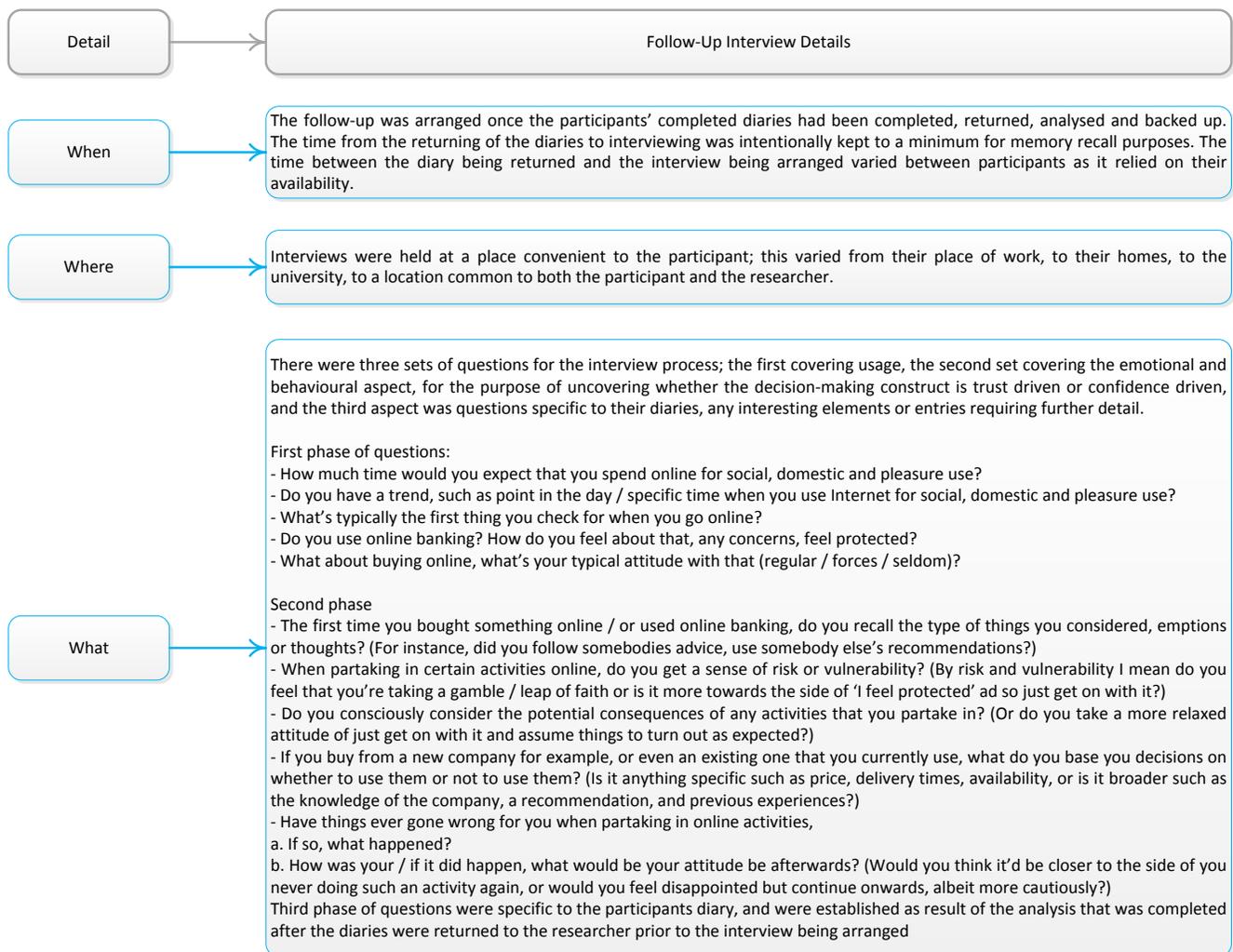


Figure 39: Diary Study Analysis (implemented)

5.8.3 FOLLOW-UP INTERVIEW

Once the diaries had been completed by participants and returned, they were backed up and analysed for the follow-up interview. Any potentially interesting insights or entries requiring further detail or context were then extracted and entered into the interview questions. The follow-up interviews were held within anything from six to fifteen days after the completion of the diary documents. At each stage, data and elements of the research such as diary documents etc. were securely backed-up according to the procedures outlined within the ethics requirements.



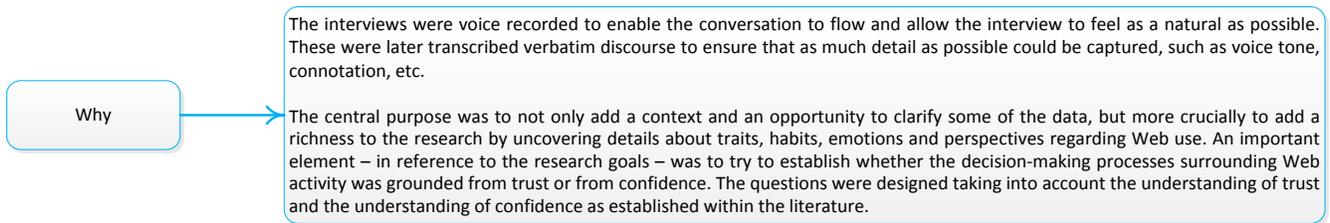


Figure 40: Follow-Up Interview Analysis (implemented)

5.8.4 ETHICAL CONSIDERATIONS

For the purposes of respecting the role of ethics within research, the study was designed in a particular way, with informed consent being held of paramount importance due to the concerns for privacy. The participants involved and their subsequent data was securely backed up and anonymised throughout the data gathering process. The Web data was deliberately focussed on social, domestic and pleasure uses, thus excluding work or study related activity.

The study was restricted to those over eighteen years of age, with the point being emphasised that at any point they had the freedom excuse themselves from the study without prejudice or explanation. Participants also had the freedom exclude browsing information they were not comfortable with sharing.

5.8.5 SAMPLING AND PARTICIPANT PROFILES

As implied earlier within the sections of the work, the range of requirements needed for potential participants were kept deliberately light. The central requirements – outside of being willing to partake in the study – were for participants to be daily Web users for social, domestic and pleasure purposes and be over the age of eighteen. In places, a snowballing sample process was used to gather additional participants provided that they met the above criteria of being regular Web users.

In total, eighteen of the initially planned twenty individuals provided research data, below is a table containing basic details that had been uncovered before the data gathering process had commenced. Later within the work (Section 5.5.6 above) will be a series of vignettes providing further insight into the participants' habits, traits and attitude toward the Web.

#	Gender	Age	Occupation	Preliminary Data (Quotes)
P1	Male	31	B2B Sales Executive (Customer Facing)	I don't really go online for no reason, there always has to be a purpose. I don't do Facebook or anything like that...
P2	Female	27	Telephone Customer Service (B2B)	I predominantly use my phone for Facebook through the day, but mostly I use the laptop at home after work

P3	Female	25	Telephone Customer Service (B2B)	I basically use my phone for everything, which is mainly for news, social networking and emails
P4	Female	34	Interdepartmental Administrator	Mainly use the Web in chunks of time at home, sometimes use my phone but not a great deal
P5	Female	48	Administrator (Customer Facing)	Heavy Web user, I don't use my phone but I do use throughout the working day and in fairly big periods at home
P6	Male	44	Business Development Executive (B2B)	A good chunk of time after work, everyday like clockwork
P7	Female	40	PhD Student	My use is interspersed through the day, but as I have access to a few different machines, I sort of do things on one that I don't do on others.
P8	Female	44	Estate Agent	Pretty much on Facebook daily, and other stuff depends on what I need to do. I use it a lot in work
P9	Male	26	Unemployed Graduate	Mainly use it for downloads and emails, I'm not a massive Facebook user, but I do check it out every so often
P10	Female	21	Telephone Customer Service (B2C)	Mainly use my phone and my tablet, most of my Facebook and Twitter is through the phone, emails on tablet
P11	Female	24	Fashion Undergraduate and Bookmaker Assistant Manager	Most of my use is between phone through the day, but I do most stuff at home on my laptop
P12	Male	26	Sprinkler System Engineer	Mainly the phone for social networking or when I need to find something out when I'm at work. Use my desktop for anything more important
P13	Female	21	Telephone Sales Representative	Only use my phone, can't be bothered with messing around with laptops or whatever
P14	Female	24	Trainee Nurse	It takes up a lot of my day, I use it through my phone, laptop and tablet too
P15	Female	23	Trainee Nurse	Mainly laptop for important stuff and shopping, use my phone for Facebook
P16	Female	24	Assistant Manager (Bookmakers)	Spend too much time that I'd like to on the Web, mostly through my laptop but I do use my phone for bits but try not to
P17	Male	26	B2B Sales	Phone for emails and bits of social stuff, laptop for everything else
P18	Female	23	Customer Service	I think I spend too much time on the internet now that I think about it
P19	*** Failed to Complete Study ***			
P20	*** Excluded from Study***			

Table 11: Participant Profiles

Although twenty participants were recruited for the study, only data from eighteen was pushed forward for analysis. Participant 19 (P19) failed to meet for the follow-up interview section of the data gathering, and it was uncovered during the interview of participant 20 (P20) had misunderstood parts of the study in relation to the nature of her typical Web usage with reference to social, domestic and pleasure uses. It was found that despite the fact that P20 was a daily user of the Web, her usage did not go beyond one social networking website, with no usage of browsing, emails, eCommerce, online banking, information searching or news. In addition, she explained that she has never used the Web for anything outside of social networking and as a result it was felt that the inclusion of this data would provide no additional insight and skew the data somewhat as it failed to correspond to the general spread of users that took part within the study. Furthermore, P20 provided no insight or explanation as to why her Web use doesn't spread beyond one social networking website.

5.8.6 RESEARCH SPECIFICS

The participants listed, have been done so in order of their inclusion as part of the research. The data gathering (diary study and follow-up interview) were completed between February 2013 and May 2013. The diaries were completed initially, and follow-up interviews were held within anything from six to fifteen days after the diaries had been returned, analysed and backed up. At each stage, data and elements of the research such as diary documents etc. were securely backed-up and anonymised according to the procedures outlined within the research protocol.

6 DATA ANALYSIS

This section concentrates on the techniques available to for data analysis and works to provide a comprehensive justification behind the chosen method applied to this study. The data analysis process can – depending on the nature of the research itself – come in many differing and varied forms. The common idea is that it typically ‘fits’ within the research process after the activity of data gathering has taken place, and its fundamental purpose is to analyse the data that has been obtained. The premise is to look for relationships or themes within the data, and in doing so, allow for discoveries to be made and conclusions to be formed. The approach used within this study is highlighted within the diagram below:

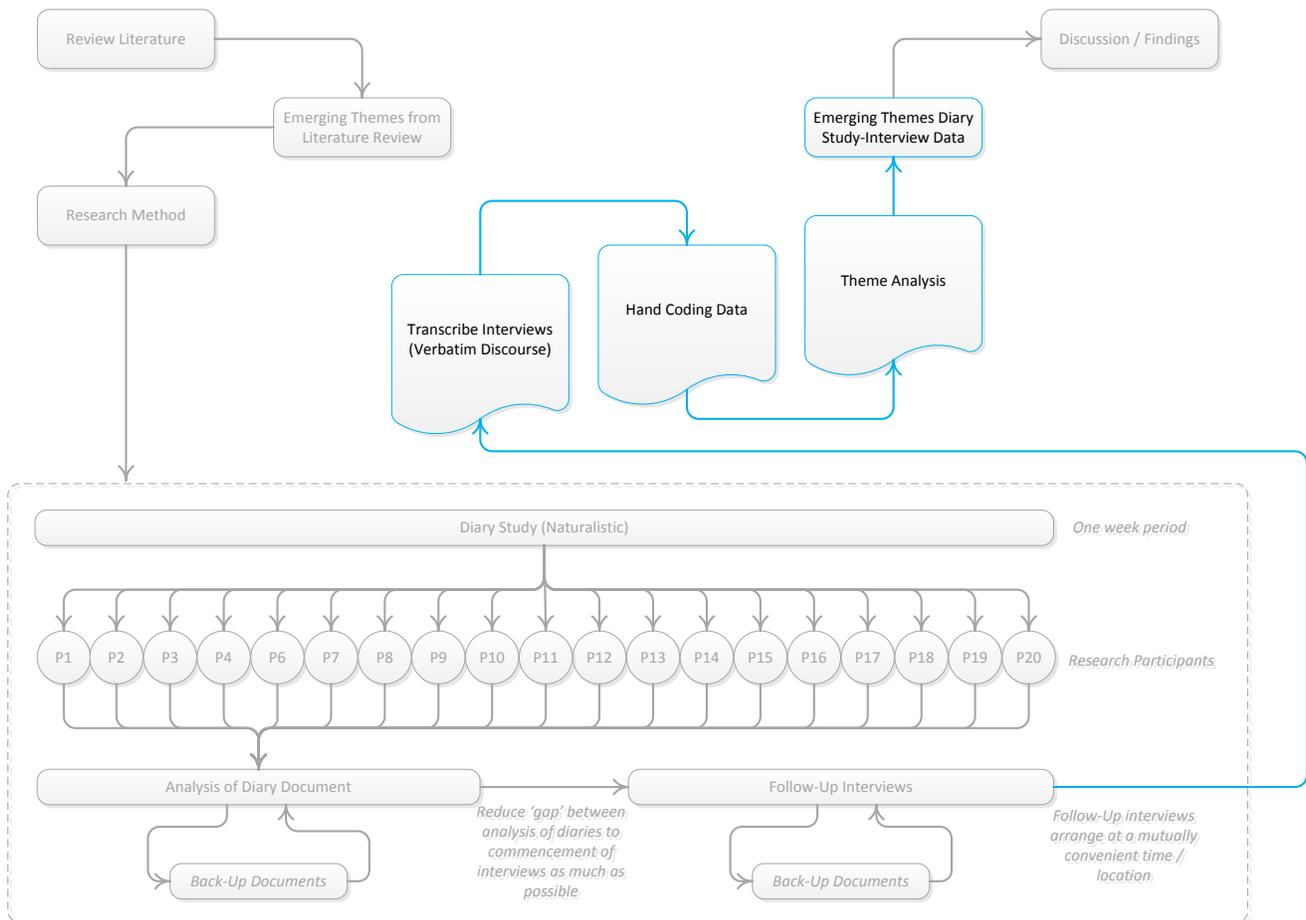


Figure 41: Data Analysis Approach

It is recognised that the methods of data analysis available are suitable to a specific piece of research, and are therefore influenced by the nature of the research itself. Once the research strategy has been established, implemented and the data gathered, this analysis process is what follows and it is the process of using a specific approach to examine and interpret the data.

6.1 CORE APPROACHES TO ANALYSIS

In its main, the work of three prominent research authors was used to gain a comprehensive understanding of the framework within the data analysis process. Although specific details vary, the literature of Oates (2009), Denscombe (2010) and Rugg and Petre (2007) do largely agree that there are two overall approaches to data analysis that can be used – quantitative and qualitative approaches. Lying beneath these approaches is array of specific techniques that can be employed to analyse data in a specific manner.

6.1.1 QUANTITATIVE DATA ANALYSIS

Quantitative data analysis refers to data or evidence that is based on numbers (Oates 2009). This approach is understood to be primarily positivist and is mainly developed by experiments and survey type research. The outcomes of quantitative data analysis are typically statistical and employ the use of tables, charts and graphs to illustrate the existence of patterns within the data (if any). ‘Complex statistical techniques allow you to establish whether the patterns in the data are really in existence or just there by chance’ (Oates 2009).

It is explained by Rugg and Petre (2007) that the specific analysis method and the subsequent interpretation of the data are of fundamental importance. Although numerous techniques are available to interrogate statistical data, the researcher must understand what each technique does and when it can and should be used (Oates 2009). As with qualitative data analysis approaches, the interpretation of the data cannot be achieved without the researcher. Oates (2009) explains it is imperative for the researcher to recognise the various types of quantitative data that can be gathered prior to be a selecting a technique used to analyse them. This is then broken down into four types

- i) Nominal data (categorical data) – whereby the only possible analysis is frequency, for instance ‘male or female’. The coding has no impact on this, only the frequency of particular types
- ii) Ordinal data (ranked data) – this is similar to the Likert-scale whereby numbers are allocated. This allows for arithmetical coding. The understanding exists that although there is an order / scale to the codes, the researcher is not able to deduce how much greater one is from the other in real terms. For instance, the distance between ‘agree’ and ‘strongly agree’ cannot be measured.
- iii) Interval data – similar to ordinal data but where measurements are made against the quantitative scale where the differences or intervals between points are commonly the same size and ranking is proportionate. For instance the difference between 1984-1988 is comparable to the difference between 1904-1908
- iv) Ratio data – linked to interval data however the key difference is that there is a true measurement of zero, for instance age, height, weight. Due to the fact that there is a true zero, then the

researcher has the ability to use intervals across the board, so that addition, subtraction, division and multiplication can all be used.

From this, it becomes understandable as to why it is important for the researcher to know about the types of data being gathered prior to choosing a method to be used for its analysis. A thorough understanding of the data that is being gathered and the manner by which it is being used is critical to the researcher as it ensures that the most appropriate use of the statistical techniques is employed for the analysis. The surrounding literature – namely Oates (2009) and Rugg and Petre (2007) – explains that with computer-based programs available to aid analysis, that it becomes increasingly possible for researchers to utilise inappropriate statistical techniques within the analysis. In other words, with the use of software it becomes easy to interrogate data using numerous statistical techniques, however the knowledge of the researcher will identify which techniques are the most appropriate for that specific study.

6.1.2 QUALITATIVE DATA ANALYSIS

Whereas numbers drives quantitative data analysis, qualitative is driven largely by words and other elements such as images, sounds and video...essentially anything that isn't recorded in a numerical way. 'It is the main kind of data used and analysed by interpretive and critical researchers but can be generated by positivist researchers too' (Oates 2009).

Although the data is in a different form, the purpose of the analysis remains unchanged. As with quantitative data analysis, there is an array of approaches available, and the appropriateness and applicability of each is something that is governed by the type of data and by the knowledge of the researcher. One key difference is that 'whereas quantitative data analysis can draw upon well-established mathematical and statistical procedures, qualitative analysis has fewer procedures and is more dependent on the skill of the researcher to see patterns and themes within the data' (Oates 2007). The analysis of qualitative data can take a number of forms depending on the type of data being used and the reasons for which they're being studied; this is broken down into three broad types (Denscombe 2010)

- i) Iterative – this is the situation where the analysis is an evolving process whereby data analysis and data collection go hand in hand
- ii) Inductive – analysis tends to work from the particular to the general. From the detailed study of localised data, the analysis attempts to arrive at more abstract and generalised statements about the topic

- iii) Research-Centred – the values and experiences of the researcher are seen as factors influencing the analysis. Therefore, the researchers ‘self-identity’ is treated as significant in relation to the analysis

Denscombe (2010) also points out that the kind of research method used does not provide the defining characteristic of qualitative data. It is the nature of the data produced that is the critical issue. Qualitative research data is non-numerical, it can therefore embrace all types, from written documents, books, artefacts, diaries, reports, video recordings, advertisements, voice recordings, interviews, etc. From this, it becomes understandable that the analysis techniques used for qualitative data would vary greatly depending on the type and format of the generated data.

6.1.3 COMMON DATA ANALYSIS STAGES

There are several stages within the data analysis process that are common to both quantitative and qualitative approaches. The decision is typically made early within the research as to whether the overall process is inductive or deductive:

- Inductive approach to research is one whereby a theory emerges from the data.
- Deductive approach takes the opposite direction in that existing theories are applied to the data.

Understandably, the route chosen will have a bearing on the applicability and efficacy of the available approaches to data analysis.

A further consideration that needs to be made is whether the subsequent data analysis will be computer-aided and if so, to what extent. The advantages of computer aided-analysis for qualitative research with packages – such as NVivo – are considered advisable in many cases as factors such as the storage, coding, categorising and retrieval of data is far superior with computer software than when compared with manual methods. Although computer applications can assist greatly with the management of (Denscombe 2010).

Both approaches to analysis, are concerned with identifying themes, and a crucial point of this process is the preparation of the data prior to analysis; the process of organising and coding data. Following this is the point where analysis takes place, where themes are identified from the data. The specifics of how this is handled will vary greatly due to the nature of the data, but overall the process of data preparation serves the same purpose. There are multiple forms of how this process is handled and implemented.

- Nature of the research,
- Type of data,
- Methods used
- Purpose of the research

These are just some of the numerous elements that impact upon the research process and therefore upon the approach to data analysis. As opposed to discussing data analysis techniques for the sake of discussing data analysis techniques, the route has been taken to concentrate on those applicable to this research.

6.2 ADOPTED APPROACH

This section illustrates the detail and justifications behind the analysis approach that has been chosen for this research. The data is gathered through a diary study and follow-up interview, it is entirely qualitative and therefore a qualitative approach to data analysis is required to support it.

The initial part of the data is gathered from the hand-written diary document which is completed by the participant over seven-consecutive days. The second part from a follow-up voice-recorded interview (later transcribed verbatim). Although in different formats initially, both these sets of data fall within the category of being ‘talk or text’ based qualitative data.

The qualitative analysis approaches for spoken or written word – as it is within this instance – differ from approaches for other non-numerical data types such as artefacts, video, images, etc. Depending on the literature that is followed, the methods of analysis for talk and text data are structured in different ways. Denscombe (2010) takes the concept of ‘theme analysis for talk and text data’, and then subdivides into five separate categories based upon what the research is aiming to get from the data (the ‘research purpose’).

- i) Content analysis – look for hidden messages
- ii) Grounded theory – develop concepts or theory
- iii) Discourse analysis – show how power is exercised through language
- iv) Conversation analysis – reveal underlying rules and structure of talk and interaction
- v) Narrative analysis – depict constructions of personal identity and social works

Oates (2007) takes a more straightforward, and arguably less prescriptive approach of separating qualitative data analysis approaches into three types:

- i) Textual data – determined by the data
- ii) Non-textual data – determined by the data
- iii) Grounded theory – determined by the overall approach to research

It is this latter work of Briony Oates (2007) and her approach to theme analysis is the approach adopted to analyse the data.

6.2.1 OATES APPROACH

The approach used is known as theme analysis within the work of Oates (2007); this approach was chosen as it was found to be less prescriptive and more practical than the alternative offered by Denscombe (2010). Oates (2007) makes the point that ‘theme analysis’ is the central way that text data is analysed for qualitative research; it is analysed for themes by systematically separating data into various segments, categories, eventually leading to research themes. Provided that the analysis method and framework is robust, systematic and implemented comprehensively – as within any data analysis approach – then solid research result will follow.

The Denscombe (2010) method involves categorising theme analysis into four further approaches (narrative, content, discourse, conversation). The author favours Oates’ (2007) more general approach as, although the distinctions within the work of Denscombe provide some use, his method increases the chance of hindering the research process as it adopts a more prescriptive route (akin to quantitative approaches). Oates allows for analysis without the need for it to be forced down a particular path – a path which is dictated from the outset.

6.2.2 DATA PREPARATION

This section describes how the theme analysis approach was undertaken and the stages, phases and processes within. Initially, it focusses on data preparation and computer aids, then goes on to the data analysis stage, which summarises the above and covers the elements such as coding, categorisations and the method used to establish themes. There are two parts to the process of data preparation:

- i) First focuses on the generic, practical elements that are applicable to almost all types of data.
- ii) Second are those that are governed by a specific data type.

The practical elements of data preparation include aspects ranging from data storage, formatting and duplication. As this specific research included two forms of research – diary study and voice-recorded follow-up interviews – this process differs in places.

6.2.3 DIARY DOCUMENT

To aid with the analysis process of the diary documents, the original spiral bound diaries were used throughout the analysis including the interviews. Once the completed diary was returned, the participants’ pseudonym was included on the outer cover. The precaution was then taken to duplicate the documents before they were used in the analysis phases. Each was scanned and stored on an encrypted drive, and hard-

copies were also made and stored in an alternative location. Identical diaries (shape, size, and format) were used throughout the research with nothing distinguishing one from another.

6.2.4 VOICE RECORDED INTERVIEW

As it is in a very different format, a different approach had to be adopted for the voice-recorded interviews. Once recorded, the interviews were transcribed into hard copies in a verbatim discourse format. Electronic and duplicate hardcopies were created and stored securely. Hardcopies of the transcribed interviews were printed with a specific format as described by Liamputtong & Ezzy (2005), with the A4 page divided into three vertical columns (see Figure 43 below). The first column contains the ‘raw data’ and the following two are blank, these are to be used for the coding process. The data – which consisted of the interview questions and participant answers – was put into a left column and the two further columns in the centre and to the right were left blank. The spaces within each of these blank margins allowed for codes and notes to be written, with the central column being used for initial coding phase, and the right column for secondary coding.

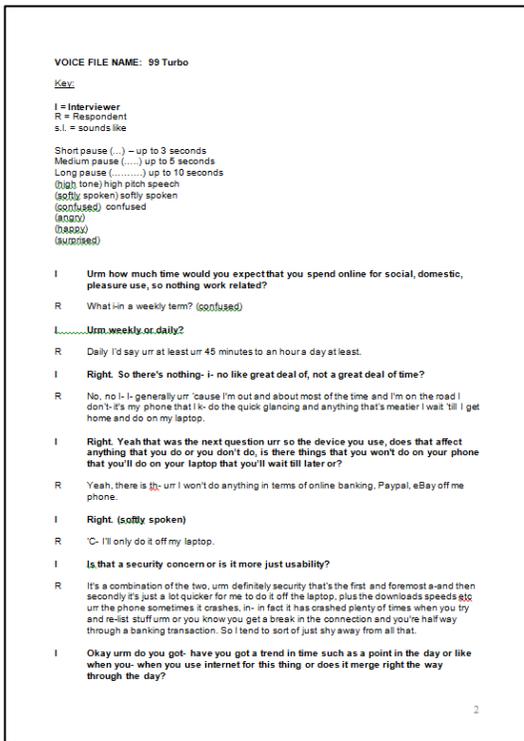


Figure 42: Interview Document (Before Analysis)

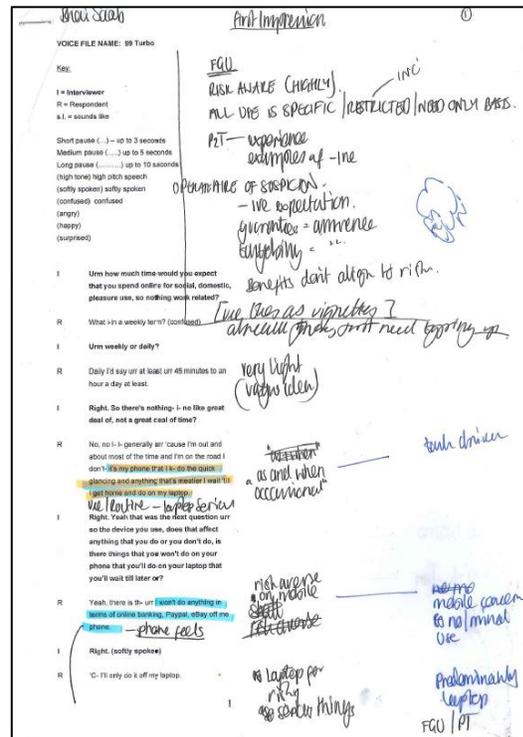


Figure 43: Interview Document (Post Analysis)

6.2.5 DIARY AND INTERVIEW DOCUMENTS

Both pieces of data – diary document and transcribed interviews – were catalogued and indexed with unique numbering systems based on the participants’ pseudonym. The importance of this is that when analysing

the data it is vital that the researcher is able to return to points in the data which are of particular interest' (Denscombe 2010) in a clear and systematic fashion. The method adopted consisted of four components that enabled the researcher to find the specific entry without the need to cross reference against a key.

- The first element identified the document,
- Second, identified the participants pseudonym,
- Third component identified the page and
- The final part pinpointed the paragraph.

For instance, the code I.O'Neill.3.3 tells the researcher that:

- I = Interview
- O'Neill = Participant pseudonym
- 3 = Page 3
- 3 = Paragraph 3

Although simple, this method of indexing data proved to be an effective means for identifying specific content and does so without the risk of over-complicating its purpose. Shorter codes or acronyms are arguably more suitable for indexing, but inherent to them is the issue of requiring a key or method of sense making to effectively 'look-up' the content, or even to create the index code in the first place. The simple four-point, document-participant-page-paragraph method, made both the creation of the index and the locating of the content self-explanatory throughout.

6.2.6 COMPUTER AIDED ANALYSIS

Computers feature within the analysis of this research; however their purpose is to support basic and administrative functions such as the creation and storage of interview transcriptions. The central tasks of managing, interrogating and analysing data are handled manually throughout. 'There is something about manipulating qualitative data on paper and writing codes in pencil that give you more control over and ownership of the work' (Saldaña 2009). The purpose for favouring the manual approach is for a reason that is advocated from the surrounding literature – *getting close to the data* (Graue & Walsh 1998). An advantage of qualitative research is the richness and detail in the data; richness and detail that could potentially be overlooked though the use of software applications. The author understands that managing the data manually throughout is a much more intensive process, but crucially it is a process that would ensure that the researcher is immersed in the data (Saldaña 2009).

The use of software for completely managing the data within this instance would be arguably unnecessary due to the 'manageable' number of participants. A coherent, systematic coding and referencing of the data is vital to ensure that manual analysis can not only be facilitated, but also facilitated comprehensively. Fur-

thermore, there are parts of the study within the interview process that have the potential to develop highly individualistic data that is only specific to a single participant. The use of software to manage such unique sets of data would be largely fruitless as there would be little or no commonality between them.

Software as an aid to analysis is advocated as there is a potential time saving element to it, although this would depend on other factors such as the nature of the research as well as the knowledge of the researcher, etc. However, as this research is qualitative, rich, detailed, and lastly contains a relatively manageable number of participants, the potential to save time is likely to be negligible. Add to this the required lead-time in learning the software, and the potential to claim any time saving benefit is understandably eliminated. In summation, the role of the computer with regards to assisting the analysis of data will be minimal as it is only concerned with the storage and duplication of data records.

6.2.7 ANALYSIS PROCESS / CODING

Saldaña (2009) points out within his work that ‘no one can claim to the final authority on the “best” way to code qualitative data’, it depends on the nature of the research and furthermore ‘it is not a precise science; its primarily an interpretive act’. This work supported the idea of taking the raw transcribed data, and formatting with two further columns for the coding cycles (Liamputtong & Ezzy 2005).

With the data presented in the three-column format, the coding process could proceed in the manner supported by Denscombe (2010). The initial stage of which is for the researcher to become ‘thoroughly familiar with the data, reading and re-reading transcripts and becoming immersed in the minute details of what was said, what was done, what was observed and what is portrayed through the data’. After this, the process can be broken down into five stages:

- i) Decide on the units to be coded – individual words, lines of text, sentences, etc
- ii) The kind of thing that’s going to be coded – this is largely governed by the nature of the research, but can include elements such as events, actions, opinions, particular words or phrases, implied meaning or sentiment..
- iii) The choice of initial codes can come from the data itself or thoughts of the researcher. Up on doing this, the codes can be grouped together and categorised
- iv) The cycle is repeated to reduce the codes and categories
- v) Develop a hierarchy of codes and categories

The Saldaña (2009) process differs slightly in terminology but the structure is largely the same, his work emphasises the need to develop codes, categories, (potential for subcategories), themes and potentially theory. In other words, the data moves from *particular* through to *general*. His work advises for novice users to code everything and then filter through repeating the process and employing categories as ‘rarely is the first

attempt perfect'. The work of Emerson, Fretz & Shaw (1995) provides a list of questions to be considered whilst coding, which will also be used within the process:

- What are people doing? What are they trying to accomplish?
- How, exactly, do they do this? What specific means and/or strategies do they use?
- How do members talk about, characterise, and understand what is going on?
- What assumptions are they making?
- What did I see going on here? What did I learn from these notes?
- Why did I include them?

Although generic and not applicable throughout, the use of these questions as a tool to guide the extraction of codes is something that it is advocated, thus ensuring that the process remains thorough and complete.

6.3 ANALYSING THE DATA

This section is concerned with the latter part of the research process (highlighted in the diagram on the first page of Chapter 6); it outlines the specific process used to analyse the gathered data and, more crucially, works to identify the outcomes of the research. The subsections will be covered in the following order:

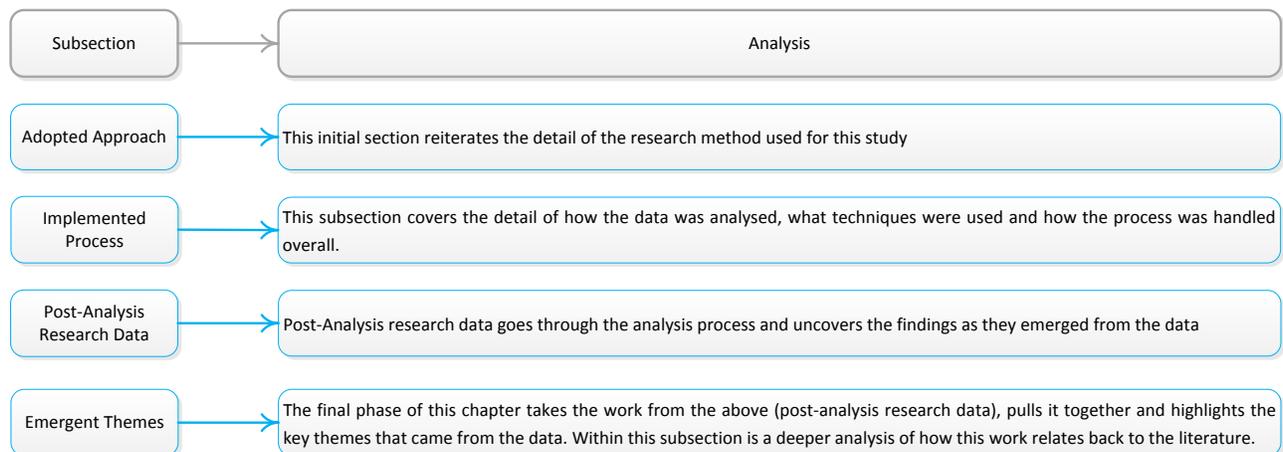


Figure 44: Data Analysis Chapter Sections

Rather than presenting large samples of qualitative data from the diary study and interview, the author has taken the route of describing the detail of the approaches used, and creating summaries of the data. The main outcomes are the themes of the research, which are analysed towards the rear of this chapter. Themes are cross referenced with earlier sections of this work as well as discussed in relation to wider literature within the field. There were two stages to the data gathering process, i) a diary document, and ii) a follow up interview. As shown in the diagram at the start of this chapter, diary documents were backed up and analysed upon completion, arrangements were then made for the follow-up interview to take place. The interviews were voice recorded and then later transcribed (verbatim discourse), and were finally prepared for

analysis. The interview data provided – as expected – the vast majority of the insight, with the diaries providing a basis upon which to place it.

6.3.1 ADOPTED APPROACH

Taking techniques from the works of Denscombe (2010), Oates (2007), Saldaña (2009) the approach was taken to hand-code the diary and interview data. Once transcribed, the interview data was formatted into three columns according to the work of Liamputtong & Ezzy (2005), with the data on the left, and two further blank columns allowing space for a minimum of the first and secondary coding process.

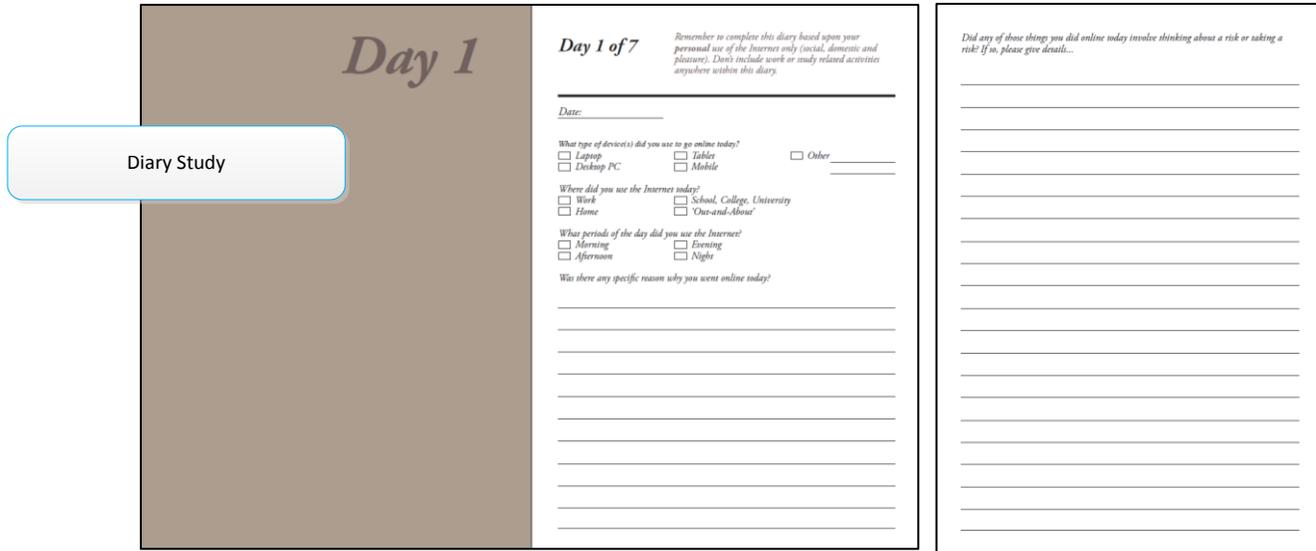


Figure 45: Diary Study Example

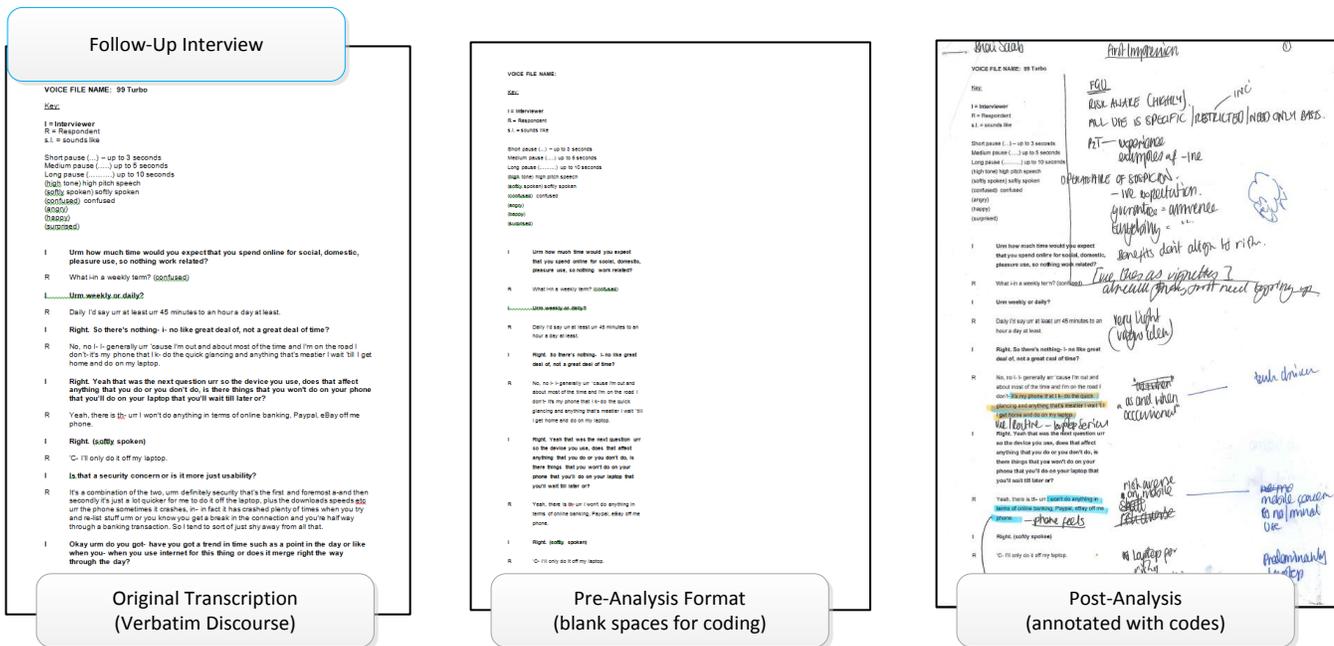


Figure 46: Follow-Up Interview Process

It has to be remembered that during the data analysis phases that ‘simply categorising everything possible isn’t much help; even if it doesn’t take a prohibitive amount of time, it risks giving equal prominence to the trivial and to the important in the subjects’ world views’ (Petre & Rugg P155).

6.3.2 IMPLEMENTED PROCESS

The Saldaña (2009) model was used as a reference point, particularly within the initial stages of analysis to ensure that process overall adhered to some form of structure. The diagram below demonstrates how the thematic coding process is handled with data moving from real / particular to abstract / general. This model shows the approach that was adopted to formulate themes from the diary and interview research data.

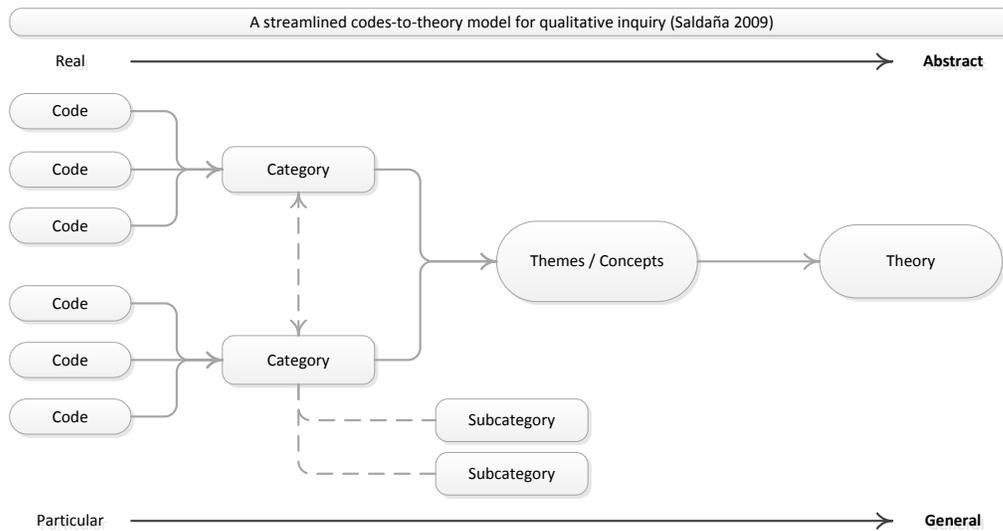


Figure 47: Codes-To-Theory Analysis (Saldaña, 2009)

During the data analysis, documents were coded based on how participants used the Web as well as their apparent attitudes toward trust, confidence and risk. The data analysis process was handled as follows:

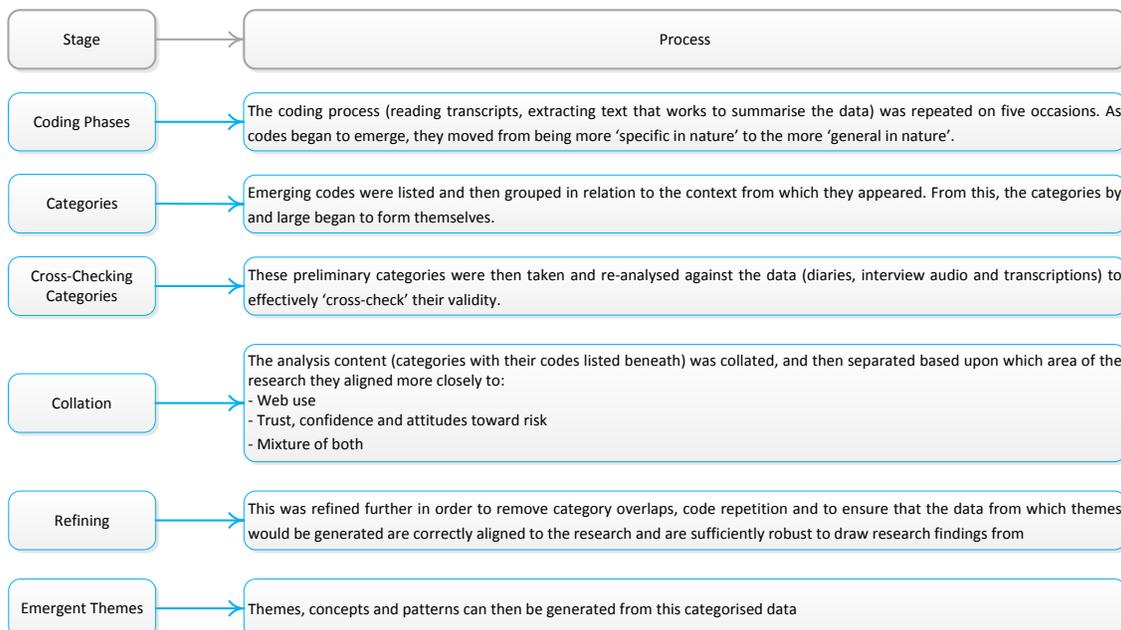


Figure 48: Thematic Analysis Process (implemented)

6.4 POST-ANALYSIS RESEARCH DATA

There are various outcomes which emerge at different stages of the data analysis process; these are illustrated in order within this subsection

- i) Samples of gathered data
- ii) Vignettes of participant data
- iii) Emergent Categories

Following is a separate section which researches into the emerging themes from the data, providing a summary and analysis.

6.4.1 SAMPLES OF GATHERED DATA

Rather than providing the entire data set within the document, (252 pages of diary data, and over 357 pages of interviews), the approach has been taken to show the outcomes of three participants data (diary and participant transcripts) followed by a summary of the data. The complete data of the three participants is supplied in appendix B. The three randomly chosen participants were P1, P6 and P16, below is their profile detail as found within Chapter 5

Participant 1

P1	Male	31	B2B Sales Executive (Customer Facing)	I don't really go online for a no reason, there always has to be a purpose. I don't do Facebook for anything like that...
----	------	----	--	---

The interview illustrated some key points about this participant, in that they were found to be highly-risk aware with regards to the Web and restrict all use to a firm 'needs only' basis. Despite being a daily user of the Web, his use was found to only be in short bursts for specific tasks with no social media use whatsoever. It was found that this participant had great knowledge of the negative aspects of the Web, namely fraud, knowledge of which originated from previous employment and more recently from media. As a result of this, P1 explains how he operates with an air of suspicion as he's "heard too many scare stories". Overall, this P1 carries negative expectations of Web interactions, avoids engaging with as much as is feasibly possible, including eCommerce. He finds assurances in guarantees and tangibility, and when applied to the Web his typical perception is that the benefits fail to align to the risks.

Brack Search

VOICE FILE NAME: 99 Turbo

Key:
I = Interviewer
R = Respondent
s.l. = sounds like

Short pause (...) - up to 3 seconds
Medium pause (...) up to 5 seconds
Long pause (...) up to 10 seconds
(high tone) high pitch speech
(softly spoken) softly spoken
(confused) confused
(angry)
(happy)
(surprised)

I: Um how much time would you expect that you spend online for social, domestic, pleasure use, so nothing work related?

R: What is in a weekly term? (confused)

I: Um weekly or daily?

R: Daily I'd say um at least um 45 minutes to an hour a day at least.

I: Right. So there's nothing - I - no like great deal of, not a great deal of time?

R: No, no I - I generally am 'cause I'm out and about most of the time and I'm on the road I don't - it's my phone that I - I do the quick - glancing and anything that's smaller I wait 'til I get home and do on my laptop.

I: Right. Yeah that was the next question um so the device you use, does that affect anything that you do or you don't do, is there things that you won't do on your phone that you'll do on your laptop that you'll wait till later or?

R: Yeah, there is I - um I won't do anything in terms of online banking, Paypal, eBay off my phone. - phone feels

I: Right. (softly spoken)

R: 'Cuz I'll only do it off my laptop.

Handwritten Notes:

- First Impression**
- FGU** (First Glance User)
- USE AWAKE CHEMILY
- ALL USE IS SPECIFIC / RESTRICTED / NEED ONLY BASIS.
- P2T** - experience examples of - I've
- OPERATIONAL OF SUSPICION** - I've expectation.
- guarantee = assurance
- ambiguity = ...
- Benefits don't align to risk.
- True bias as vignettes? accurate break, don't need logging up.
- very light (vague idea)
- as and when occurred
- tech driven
- not on mobile
- no laptop for risky stuff things
- no mobile concern for no minimal use
- Predominantly laptop
- FGU / PT

Figure 49: Participant 1 - Transcript Page 1 of 14

Participant 6

P6	Male	44	Business Development Executive (B2B)	A good chunk of time after work, everyday like clockwork
----	------	----	--------------------------------------	--

This participant had one of the most detailed diaries and also one of the lengthiest interviews which provided incredible insight into their attitude toward the Web and their use of the Web. Participant 6 uses the Web in a way that substitutes the role that television may play within the household. It is used after working hours, in a 'solid chunk' of time on a desktop, with a set structure of what websites were initially accessed and in what order; he considers himself a medium-to-heavy user. The diary shown that all Web activity (excluding work emails) is conducted through his home PC, and the interview uncovered that despite having a capable smartphone it was never used to access the Web or email, the laptop was only used for work-related emails. Neither device was used for browsing, irrespective of whether it was for work or personal reasons. P6 felt they were quite 'Web savvy' having had spent over ten years as a regular Web user, but despite this he considers himself very mindful of security, and was more conscious of it than most of the other participants. Online purchasing was regular but was also limited to companies he considered 'reputable' based on

how recognised they were as an online or offline brand. The interview uncovered that P6 was an active user of Web security software, and regularly downloaded and streamed illegal movies as well as accessing pornographic content.

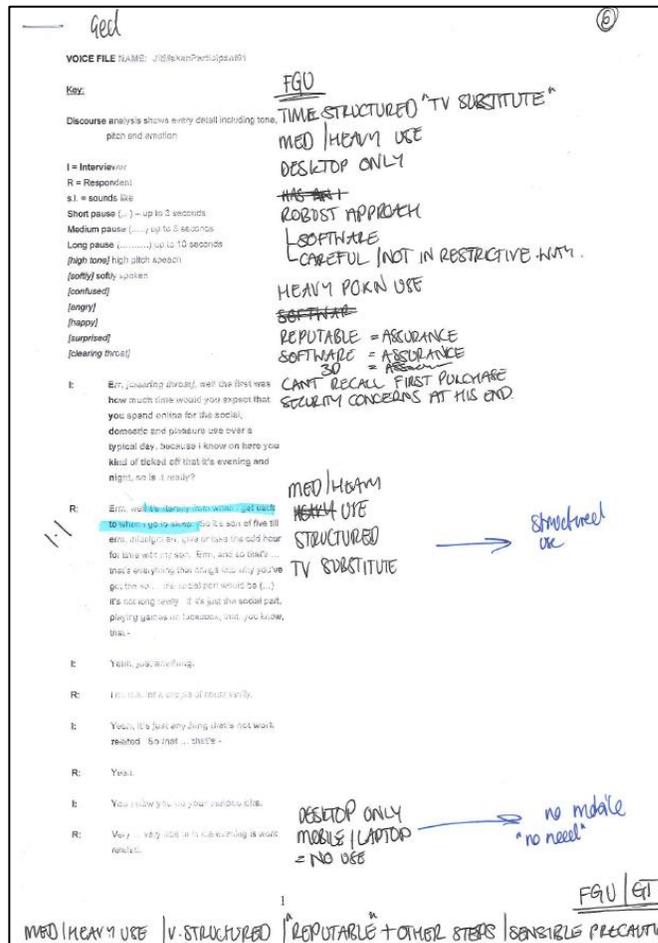


Figure 50: Participant 6 - Interview Transcript Page 1 of 24

Participant 16

P16	Female	24	Assistant Manager (Bookmakers)	Spend too much time that I'd like to on the web, mostly through my laptop but I do use my phone for bits but try not to
-----	--------	----	--------------------------------	---

Participant 16 interspersed her Web activity through the day and through different devices, but overall her use was considered to be 'task driven', which is a label the research applied to say that she was somebody who accessed the Web typically for a specific purpose, rather than as a form of entertainment or out of habit. The majority of activity was conducted through a laptop, with social networking being the only regular activity conducted through a smartphone. Participant 16 did have a loose structure to what order she visited

websites, with email always being the first point of call. Overall, her activity and impressions of the Web showed that her use was more cautious than it was carefree and although she typically held positive expectations with regards to Web interactions, it was only done so within ‘reason’, rather than being something done ‘blindly’.

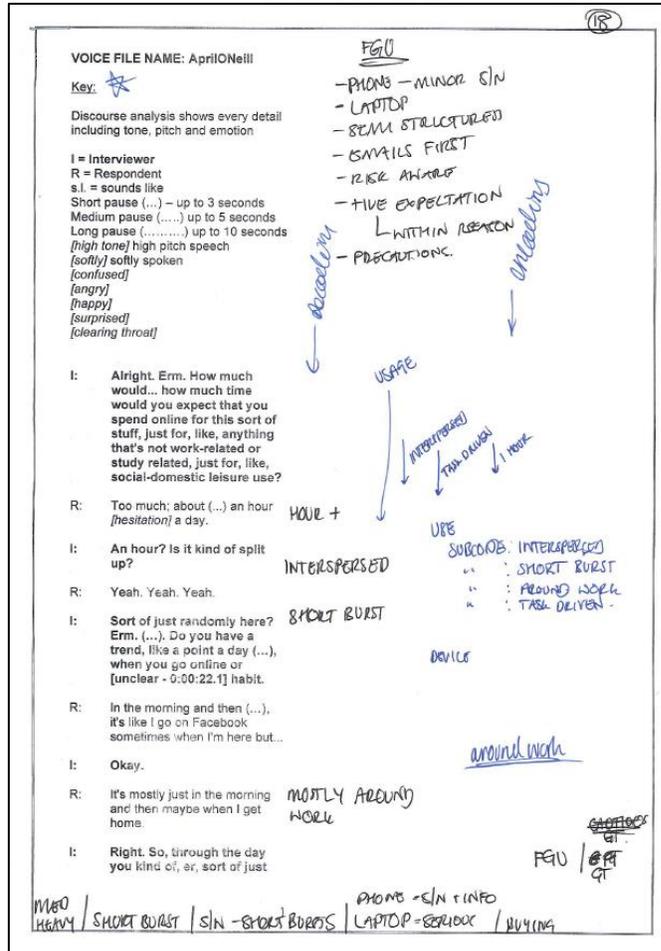


Figure 51: Participant 16 - Interview Transcript Page 1 of 20

6.4.2 VIGNETTES OF USER TYPE AND WEB USE

To show summary information from the study, vignettes illustrating elements of participants’ online behaviour are presented, these emerged during the coding and categorising phases of the analysis. This impression of user type was decided based on the understandings as presented within the OxIS 2011 research into user types (Dutton & Blank, 2011). In this thesis the work on user types became to the forefront when researching into the current trends and Web use for the UK and US populations.

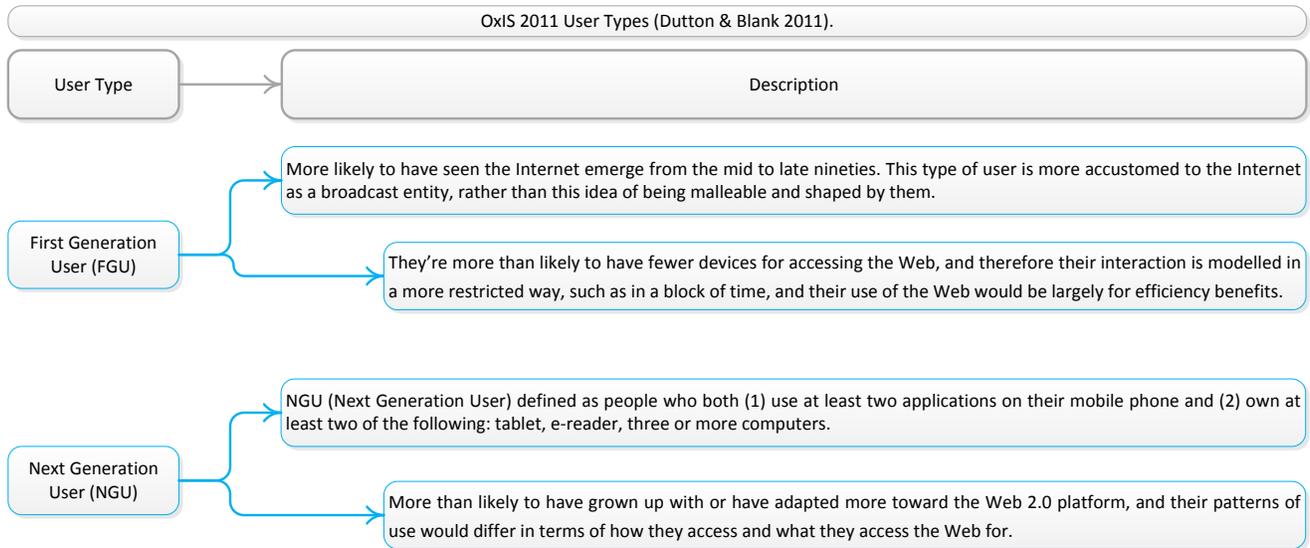


Figure 52: Web User Types (OxIS 2011 Study)

Participant vignettes were created based on notes made throughout the coding process, and were then cross referenced back taking in the full transcript to ensure that the detail within provided for a fair representation. Taking into account the OxIS research, the participants' Web use data from the thesis was analysed to determine if they fall into either of the FGU or NGU categories as established within the Dutton & Blank (2011) report. The purpose of doing such was twofold,

- i) It presented an ideal means of validating the report's findings to see if they carry across into this thesis,
- ii) If any insight gained has the possibility of allowing for some data of themes to be generalised based on the FGU / NGU categorisation of the participants, e.g. if a participant is categorised as NGU, does knowing this provide any further insight into their likely behaviour with regards to Web use and attitude to Web confidence?

The vignettes of the participants data is presented in the table below (Table 11 & 12) and have been separated based on the OxIS findings of categorising as FGU or NGU. The participants' nature of Web use (according to the diary entries) as well as the follow-up interviews provided the basis as to whether they were categorised as being an FGU or NGU, i.e. the range of devices they used to access the Web, their frequency of Web access, the nature of their Web use – habitual or purpose driven, the types and range of activities performed on the Web, etc.

As an alternative to presenting the whole of the research data, vignettes have been used in order to give an impression of the participants' overall attitude toward the Web in a more practical and usable format.

#	Gender	Age	Occupation	Vignette of FGU
P1	Male	31	B2B Sales Executive (Customer Facing)	Negative expectations, highly sceptical of Web (media driven), operates cautiously, accessed the Web on an entirely task-driven basis for a specific reason only, light user overall
P2	Female	27	Telephone Customer Service (B2B)	Positive expectations, uses her phone for minor tasks such as social networking, has a practical approach and limits risk by only shopping through 'known' sites and is a light user overall
P3	Female	25	Telephone Customer Service (B2B)	Web use is predominantly through mobile device (phone), has a minimal concern or regard for risk but is also a light Web user, with a task-driven approach.
P4	Female	34	Interdepartmental Administrator	Risk averse and has a restrictive approach to Web use. eCommerce is used on a 'last resort' basis, has a cautious approach to social networking with concern for high privacy settings (for personal, rather than security reasons). No online banking.
P5	Female	48	Administrator (Customer Facing)	No mobile use due to usability issues. Heavy user, entirely through home and work desktop PC's. Are cautious but pragmatic, and researches into unknown companies before engaging. Uses the Web for convenience benefits
P6	Male	44	Business Development Executive (B2B)	Entirely desktop Web user from home. Is a heavy, experienced Web user and explains that he is also an 'advocate' of the Web to non-users. Cautious but pragmatic, uses the 'too good to be true' rule of thumb. Risk aware, regularly access porn websites and is a downloader of illegal movies
P9	Male	26	Unemployed Graduate	Light user with all use conducted through laptop, despite having capable smartphone. Web use is predominantly entertainment driven, heavy downloader of illegal movie content including porn, and is fully aware of the risks – and the blocks – involved with such activities. Naturally sceptical of all uses, irrespective of legality. eCommerce use is done on a last resort basis and no longer uses online banking as felt there was no requirement for it.
P15	Female	23	Trainee Nurse	Use is entirely through mobile devices and is almost entirely social networking. Sceptical about purchasing online, favours traditional approach. Web use overall is insignificant and narrow

P18	Female	23	Customer Service	Browsing predominantly through traditional devices (desktop and laptop) with mobile use being mainly for email use with occasional browsing, acknowledges usability issues with mobile devices. No social media activity due to personal preference (rather than concern for security), online banking with app taking favour and open approach to eCommerce. Overall positive expectations, aware of risk but little concern.
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Table 12: First-Generation User (FGU Vignettes)

The following table (table 12 below) provides vignettes of the uses considered to be next-generation users based on the OxIS 2011 Report. To reiterate, these are the users that are defined as people who both (i) use at least two applications on their mobile phone and (ii) own at least two of the following: tablet, e-reader, three or more computers. The NGU is more than likely to have grown up with or have adapted more toward Web 2.0 platform, and their patterns of use would differ in terms of how and what they access the Web for.

#	Gender	Age	Occupation	Vignette of NGU
P7	Female	40	PhD Student	Alters her Web use depending on the device used to access it. Experienced and has a pragmatic approach, with an open, cooperate approach to online banking and eCommerce. Has concern for personal information and data, but not to the extent that her Web use is altered greatly as a result.
P8	Female	44	Estate Agent	Usability is the key concern for this participant, avoids mobile access due to difficulties of navigating. She has an awareness of the risk but little to no concern, has an approach of 'you can just tell'. Experienced Web user, pragmatic, positive expectations overall
P10	Female	21	Telephone Customer Service (B2C)	Limited mobile use for social media, with the predominant use of the Web conducted through laptop. Has a structure / habit to Web use with regards to which websites are accessed first. Explains that he prefers offline processes, such as shopping, so rarely purchases online, and no online banking activity. Aware of the risks – and blocks – in spite of which P17 is a heavy downloader of illegal material, TV shows, movies and music.
P11	Female	24	Fashion Undergraduate and Bookmaker Assistant Manager	Uses multiple devices, but mediates use between them based on usability issues. Assured

				by larger companies, particularly those with an offline presence. Has a largely practical approach, researches into unknown vendors before transacting.
P12	Male	26	Sprinkler System Engineer	Heavy Web user, with a small disparity between phone and tablet use. Favours 'mobile apps' where available, central use is social media. Web use is short bursts interspersed throughout the day
P13	Female	21	Telephone Sales Representative	Heavy mobile user for social media or general browsing due to ease of access and convenience. Mediates tasks based on the device with 'serious' uses postponed for laptop. Downloader of illegal content in the form of TV shows, is aware of the risk, and acts in accordance to them.
P14	Female	24	Trainee Nurse	Predominantly mobile device (phone) use, with social media being the central activity. eCommerce and 'more important' activities conducted through desktop, and applies limitations by only shopping with larger companies. Mobile apps, or mobile versions of websites are favoured means of access due to speed and convenience. Online banking conducted through mobile apps for the aforementioned reasons.
P16	Female	24	Assistant Manager (Bookmakers)	Mainly laptop with light use through mobile device (phone) for social media only. Restricts eCommerce activities to particular vendors (known). Has a high awareness of data and privacy risks due to media, rather than personal experience.
P17	Male	26	B2B Sales	Uses multiple devices on regular basis (tablet, phone and laptop) and uses them indiscriminately. Has a practical approach to security, uses anti-viruses, feels confident with larger, known online vendors and therefore limits purchasing to such companies. Downloader of illegal TV shows and movies, understands the risks involved having previously experienced spyware / virus.

Table 13: Next-Generation User (NGU Vignettes)

6.4.3 EMERGENT CATEGORIES

As illustrated in the snapshot below, the diary would indicate the device(s) a participant may or may not use, yet would fail to uncover to what extent they were used and for what purpose or the reasons behind particular traits they adhere to. It is this richer information that would emerge predominantly via the follow up interview.

Day 1 of 7

Remember to complete this diary based upon your personal use of the Internet only (social, domestic and pleasure). Don't include work or study related activities anywhere within this diary.

Date: *example*

What type of device(s) did you use to go online today?

- Laptop
- Desktop PC
- Tablet
- Mobile
- Other _____

Where did you use the Internet today?

- Work
- Home
- School, College, University
- 'Out-and-About'

What periods of the day did you use the Internet?

- Morning
- Afternoon
- Evening
- Night

The tick-box element of the diary study wasn't intended to detail individual activities, but rather a summary of the different points of access for an entire day.

As the example shows, it isn't possible to determine with absolute certainty which device was used at what point in the day for what activity. This detail would only emerge from the follow-up interviews

Figure 53: Closed Questioning (Diary Study Example)

From the coding and re-coding process, nine categories emerged, the majority of which aligned coherently to the two key themes of the research i) Web use, ii) trust, confidence and risk or were an overlap of the two.

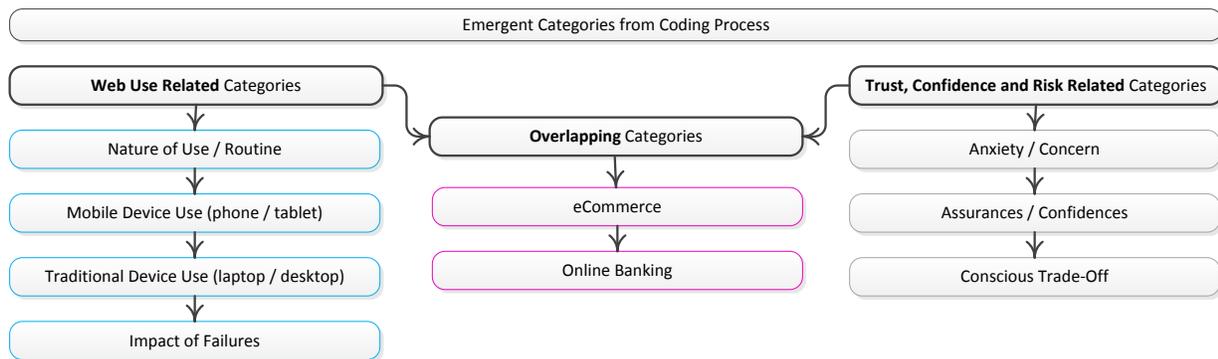


Figure 54: Emergent Categories

The following subsections provide the detail on these nine categories, the codes, subcategories and what research insight they gave.

6.4.3.1 WEB USE RELATED CATEGORIES

These are the categories that align to the aspects of the research that relate to ‘Web use’, as shown in the left column below (highlighted in blue)

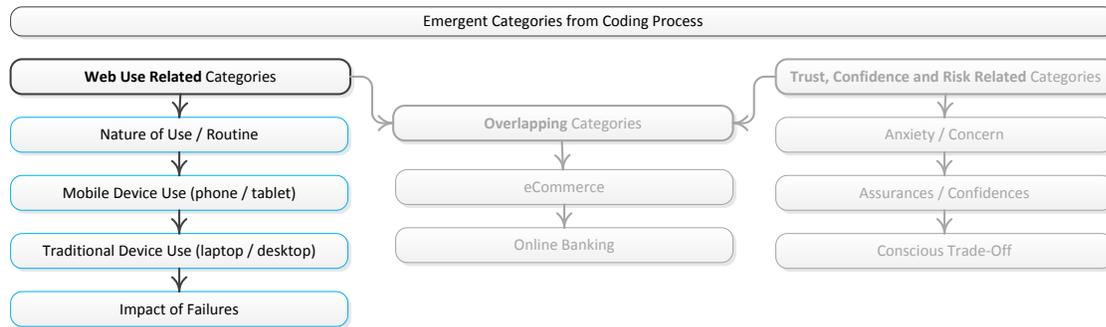


Figure 55: Web Related Categories

6.4.3.1.1 NATURE OF USE / ROUTINE

The codes within this category focus on the general elements of *how*, *when* and *what* devices the participants typically use and for what purposes. This information was uncovered by repeatedly going through the interview transcripts and identifying key data that was concerned with participants use and routines of use. The interview provided the insight in order to establish this category; listening to what participants use the Web for, and more crucially, *how* they use it, gave the researcher an understanding of what type of user they are – FGU / NGU – as well as their experiences, traits and general Web attitude. Giving those involved the ability to fully verbalise their impressions and use of the Web, the activities they do, how they spend their time online, what devices they use, etc. proved to be incredibly beneficial in determining how they perceive the Web and the relative importance of it to their lives, as is shown in the quotes below.

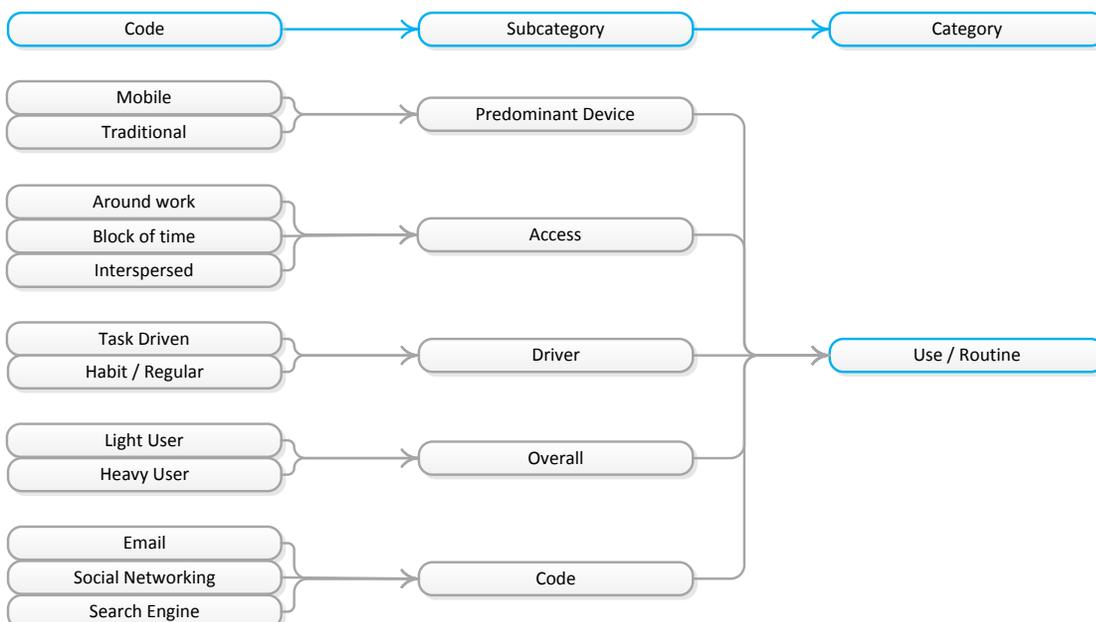


Figure 56: Nature of Use / Routine (Coding Category)

P5 – *“I tend to use it [Web] in the evening after work...”*

P1 – *“I don't sort of just go ‘oh I'm going to spend a couple of hours on the internet for no particular reason’, it's usually for a purpose”*

P14 – *“On the phone, it's mainly Twitter and Facebook, and searches for work. I use my Mac [desktop] for pretty much anything else, like paying tax bills and stuff”*

6.4.3.1.2 MOBILE DEVICE USE

As the coding process was being conducted, it started to emerge that subcategories were necessary to support the data, and they started to come together and make sense once the second iteration of coding had taken place as it was at this stage that the researcher could get a *feel* for the data.

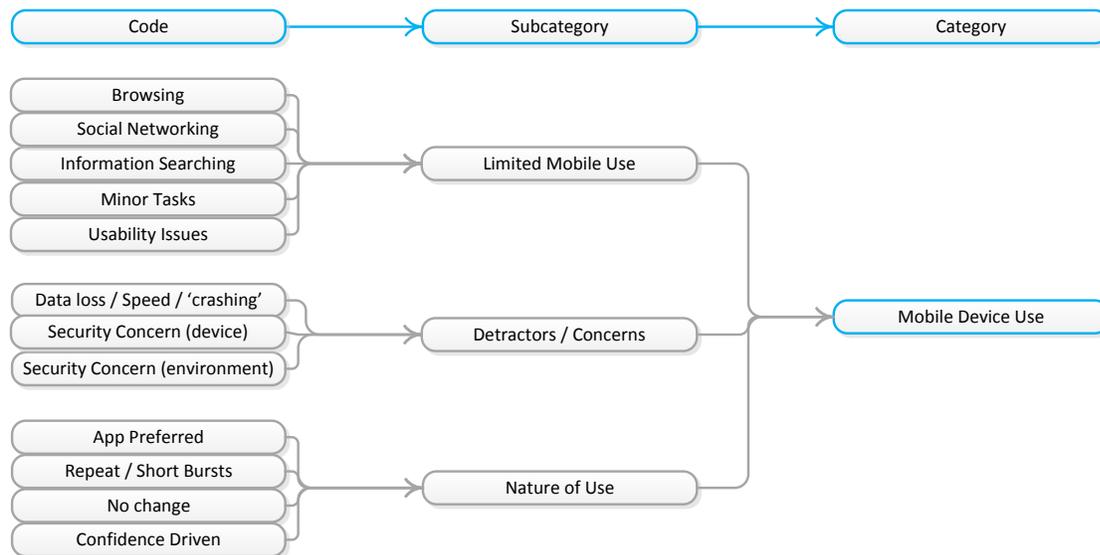


Figure 57: Mobile Device Use (Coding Category)

P2 – *“I use my phone for Facebook, but mainly use the Internet [through laptop] for serious things”*

P17 – *“I got apps and everything in my phone so I can do the same sort of stuff”*

P14 – *“If there was a mobile version of the site, I'd use that...if there's a mobile site like eBay then that's easy, but anything else I go on my Mac [desktop]”*

6.4.3.1.3 TRADITIONAL DEVICE USE

This category is focussed on how participants used ‘traditional’ devices (laptops or desktops), for what types of activities and how frequently. Both these categories (mobile device and traditional device use) overlap as

the interview uncovered, the significant majority of participants interchanged between both types and, more interestingly, the participants used them in different ways. Investigating this uncovered three interesting elements:

- i) Importance of usability
- ii) Importance of convenience
- iii) Effect of 'task nature' on device choice.

The interviews showed that although participants use different devices to access the Web, they also did so in different ways depending on the activity. For several participants the mobile phone was the most frequently used device to access the Web, however these same individuals would limit mobile phone use to tasks they considered as minor / insignificant, such as social networking. They would use traditional devices, such as laptop or desktop for other activities such as eCommerce or online banking.

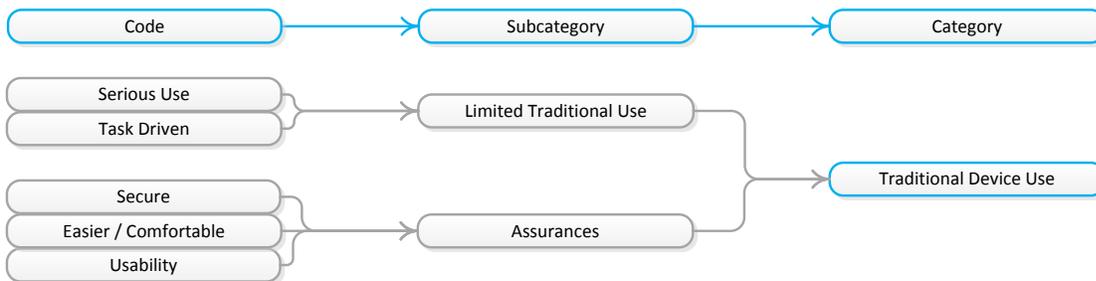


Figure 58: Traditional Device Use (Coding Category)

P16 – *“I only do purchases on my laptop... its better, I can see what’s going on more”*

P9 – *“I never use my phone for emails or anything because it’s useless, too small, never use it”*

P1 – *“I won’t do anything in terms of online banking, PayPal, eBay off my phone...I do quick glance, anything meatier I wait until I get home and do it on my laptop... it’s just a lot quicker for me to do it off the laptop”*

6.4.3.1.4 IMPACT OF FAILURES

This category – understanding the impact of failure within online services – was included within the study originally to provide a correlation between how participants responded to failure (if any) and the literature on trust and confidence in relation to failure. However, due to the points outlined below, this was a category that wasn’t pushed forward beyond the analysis stage.

As this data is concerned with the use and on-going use of the Web, it has been placed under the category of ‘Web use’, rather than ‘trust, confidence and risk’. Although the some findings can emerge through the

coding process of the interviews, the data and questioning involved wasn't found to be, rigorous or comprehensive enough to draw robust findings from. This issue was presented as a question in the interview and the purpose of it was to shed light on future behaviour / reaction of the participant following a failure, such as online fraud, late delivery, service failure, etc. The question was presented as a hypothetical for any interviewees that had not experienced any online issues or service failures. An interesting element that *could* appear from this is to assess if there is a difference between how *actual* failures were handled and how *hypothetical* ones would expect to be handled.

The research considers there to be little or no value in this data as there were far too many variables brought into question to be able to formulate any form of generalisable result. When the question was posed in a hypothetical sense to a participant that previously had *not* experienced any online issues, there were numerous variables and scenarios to account for before a clear and convincing answer would emerge. For instance, if an online purchase failed to arrive, the hypothetical reaction of the participant would vary depending on:

- The value of the item
- The type of purchase (new or used)
- The vendor (website, auction, UK based or international)
- The method of payment
- The measures of protection (replacement item, refund, no measures)
- Reasons behind failure (fraudulent website, issue with post, out of stock, etc)

Where the failure was an actual event, the responses were more successful and provided some insight into how participants responded and felt during such situations. Again, due to the vast number of scenarios and specifics for each user, it is not possible to draw anything beyond mere coincidences from the data, rather than results that are firm and generalisable.

There are numerous possibilities for one simple scenario, and in hindsight the author feels that the most appropriate way to acquire more useful data with regards to this question would be to develop a clear scenario as part of the question. Although a 'scenario' may assist in creating more accurate and convincing responses, overall the author feels that they still wouldn't be robust enough to draw consistent findings from.

6.4.3.1.5 SUMMARY

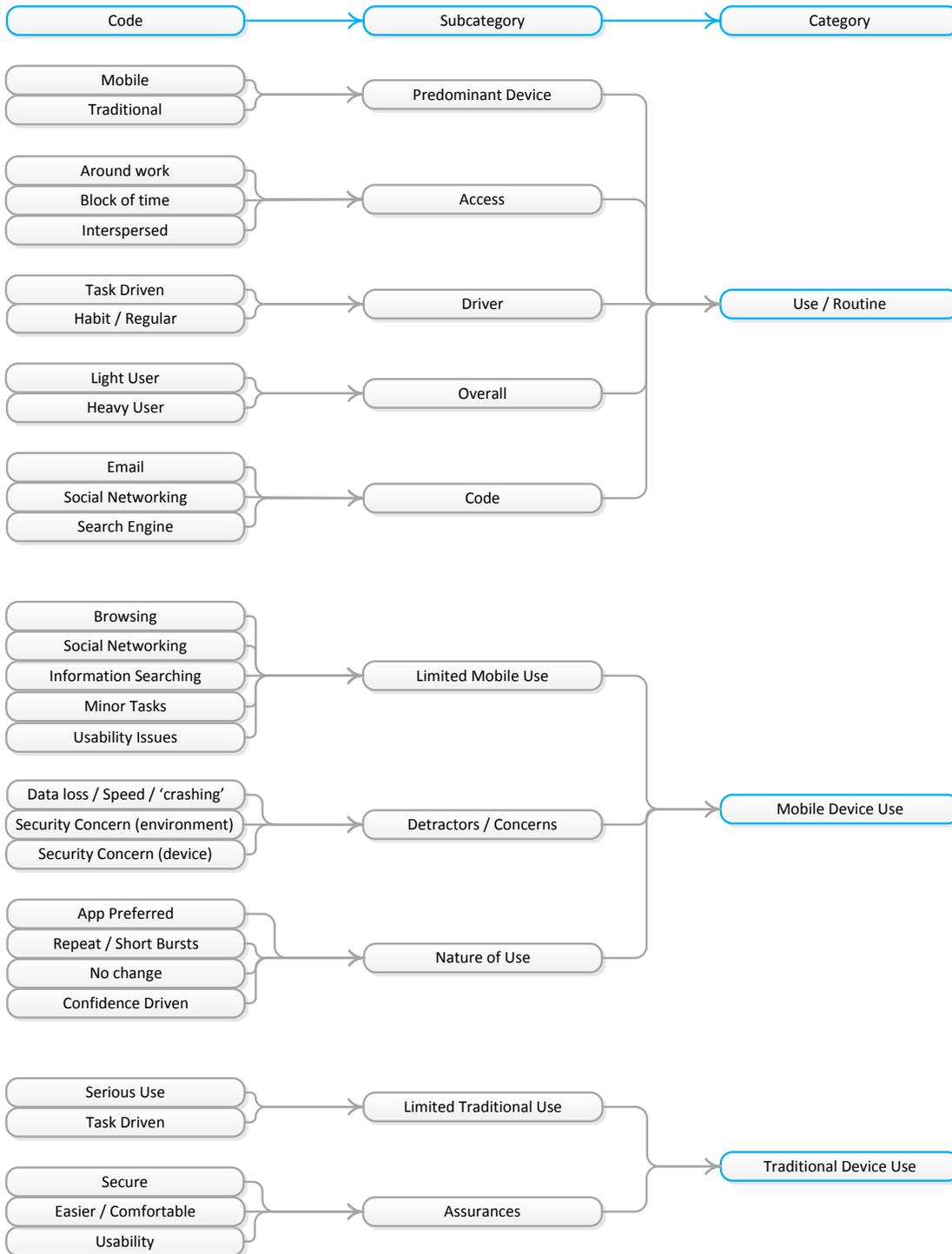


Figure 59: Web Use Related Categories (Summary)

6.4.3.2 TRUST, CONFIDENCE AND RISK RELATED CATEGORIES

These are the categories of the research that align to the trust, confidence and risk aspect of the research as shown in black on the right of the diagram below

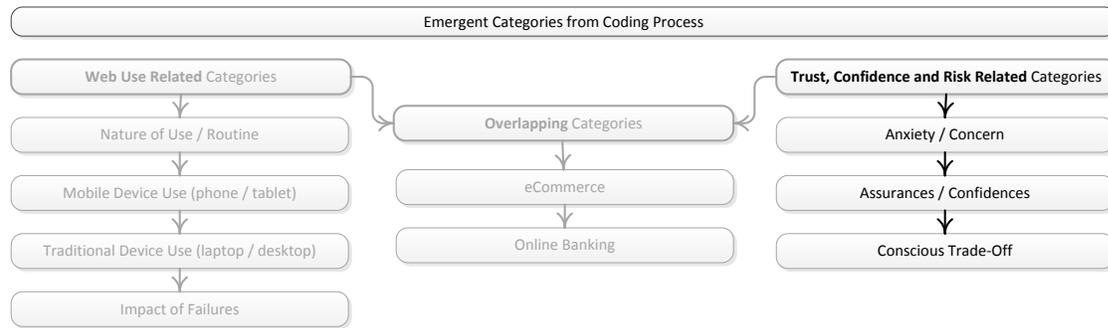


Figure 60: Trust, Confidence and Risk Related Categories

6.4.3.2.1 ANXIETY / CONCERN

This category focusses on participants anxieties or concerns in relation to the Web. It lies firmly within the trust, confidence and risk element of the study as it focuses on *how* participants feel as opposed to merely *what* they do. The codes and subcategories within this section were derived almost entirely from the interview content.

Several participants would raise concerns about particular processes, companies or other details regarding online activities. From gaining an impression of this via the interviews and then coding accordingly, the categories began to emerge. Codes were lifted from the third, fourth and fifth stages of the coding process, as this was the phase when the researcher was analysing transcripts with the aim of identifying impressions, as opposed to specific actions.

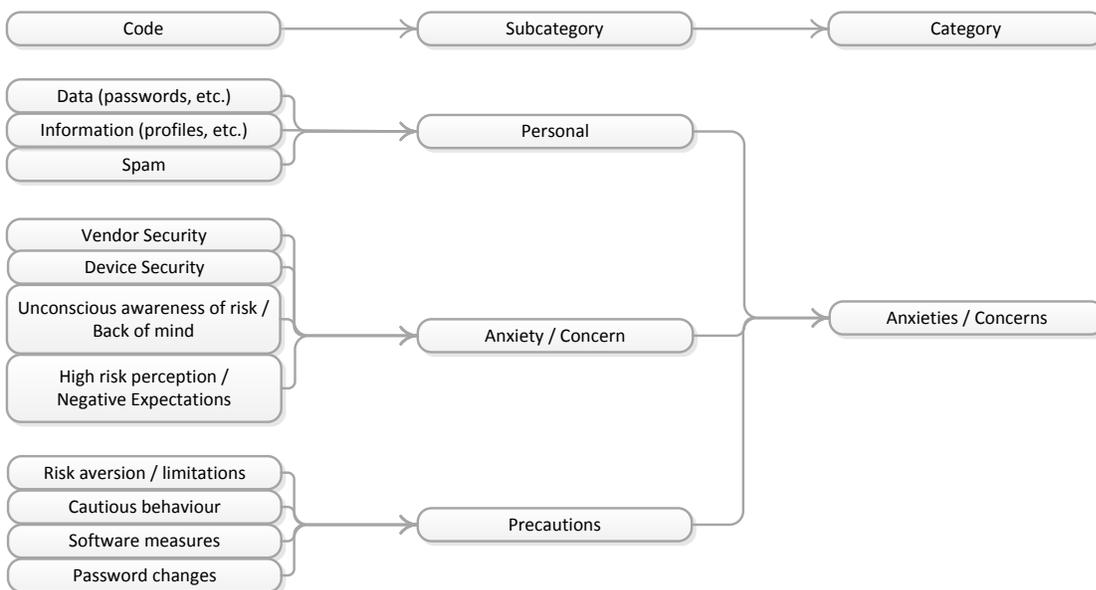


Figure 61: Anxiety / Concern (Coding Category)

P13 – *“I worry people finding out my information or leaving it logged in by accident and people finding details”*

P1 – *“I see it is risk limitation and if I can take myself out of that risk factor, then I'm doing myself a favour... I'm a stickler for making sure that I shut everything down properly and I don't spend too much time just looking at my balance and what transactions”*

P16 – *“really randomly paranoid about putting things on the internet [social media profiles]”*

6.4.3.2.2 ASSURANCES / CONFIDENCE

This category relates to the element(s) of a website that the participant found an aspect of ‘assurance’ or ‘confidence’ in and acted in some way to positively influence an interaction. The interviews provided the significant majority of this data. The early codes to come from this were incredibly varied, especially as the context overlapped for eCommerce, online banking and elements of data security. The second cycle of coding brought the data closer together, and from this the term of ‘assurance / confidence’ was established. In relation to the *riskier* online interactions – namely banking, eCommerce – participants were assured by, or had confidence in aspects such as secure websites, from credit card payments, from guarantees, from reviews and in some cases from the impression exuded by the interface.

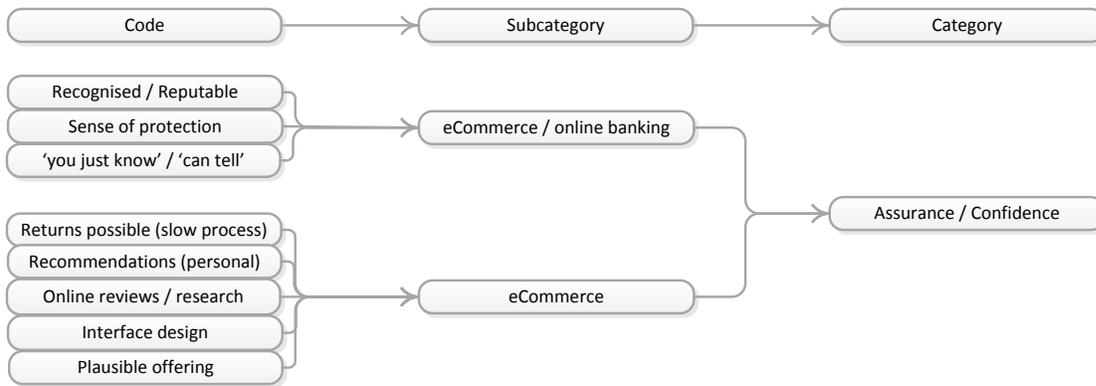


Figure 62: Assurance / Confidence (Coding Category)

P3 – *“I just get on with it really, there is an element of risk, but I feel I'm quite protected with it [eCommerce]... quite relaxed, don't worry about it really”*

P5 – *“if they're a well-known company, then that's why I trust them...I can always chase them or find them if anything goes wrong”*

P6 – *“I mainly buy from respectable companies you know, big companies... I have in the past looked up a site, like googled it... it's that too good to believe scenario. I just mainly look at them being secure sites, oh and [3D secure code] the visa thing when making payment, yeah, I love that because that actually says to me that they've got extra strength of security”*

6.4.3.2.3 CONSCIOUS TRADE-OFF

The majority of the data for this category was extracted from discussions held within the interview process, rather than being the answer to a directly posed question. With some participants, the diary identified activities that were deemed to be of higher-risk, such as the use of torrents for illegal downloads, illegal streaming of movies and regularly viewing and downloading of adult material.

The interviews showed that there was a conscious and deliberate trade off occurring between accessing this type of content and the exposure to not only *known* risks, but the expectation of risk. Although it can be argued that there are risks inherent to the use of any website, websites providing illegal content such as those described can be notoriously problematic (Wang & McClung 2011). More so than just being ‘notoriously problematic’, the participants were fully knowledgeable of the risks involved with these types of activities. They were in receipt of the fact that with such websites there is little to no protection, there is a known vulnerability to their computers and its data, and despite this they chose to fully accept these risks in exchange for content. In some cases, it was expected that these risks – namely viruses, spyware, etc – would be realised, yet this caused little concern to those involved.

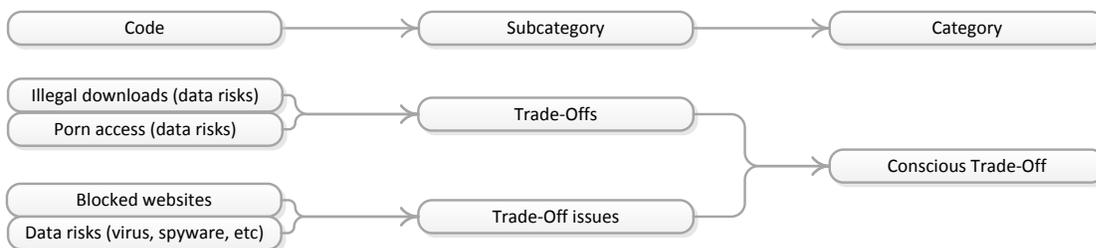


Figure 63: Conscious Trade-Off (Coding Category)

P9 – “*yeah, [downloading movies] I don't even think about it...if you get around to watching it, or watch the first five minutes and think, 'delete that'... virgin media blocked certain websites...they basically employed nerds to get rid of the nerds...I've had people take over my laptop...the thing I think is the worst thing is the time it consumes [to reboot]*”

P10 – “*if I'm downloading stuff like torrents, then it is a risk because I don't know what's going to happen to my laptop, I've had problems with spyware and viruses... there's blocks on the website, but you can still get around it using a proxy*”

P13 – “*when downloading TV series it [spyware] kept trying to download stuff on my laptop...but then I found one that I could use all the time and nothing's happened*”

Of the participants that partook in such activities, the impression was that their key concern *if any* rested on the data risks such as viruses, spyware, etc. that come from downloading and accessing illegal content. Although the fact remained that the participant knew what they was doing was illegal, they voiced no concerns for this.

6.4.3.2.4 SUMMARY

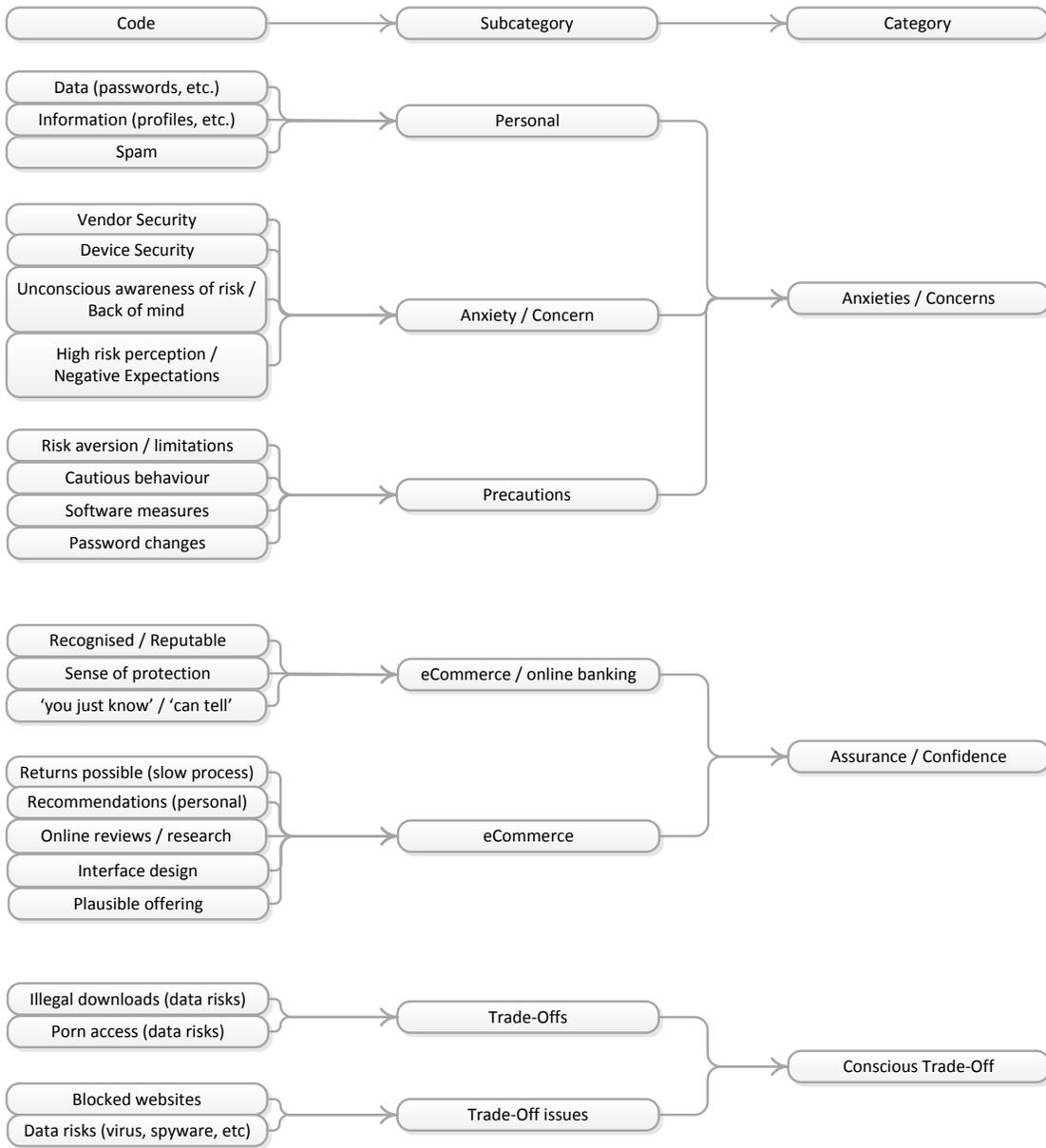


Figure 64: Trust, Confidence and Risk Related Categories (Summary)

6.4.3.3 OVERLAPPING CATEGORIES (WEB USE / TRUST, CONFIDENCE AND RISK)

These next two categories are considered a mix (as shown in pink in the diagram below) as they contain elements that overlap between being concerns with ‘Web use’, and being concerned with ‘trust, confidence and risk’. This section uncovers the codes and subcategories found under the two category banners of eCommerce and online banking.

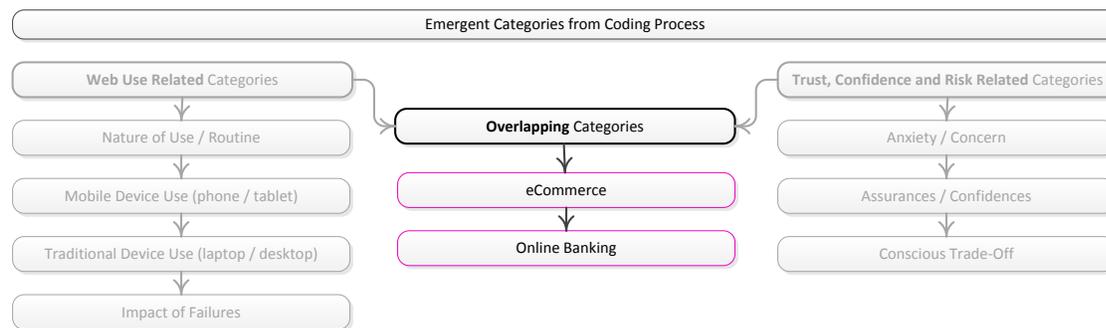


Figure 65: Overlapping Categories

6.4.3.3.1 ECOMMERCE

The eCommerce category falls under both sides of the research as there is a distinct overlap between issues of ‘Web use’ and issues of ‘trust, confidence, and risk’. There are codes that identify ‘how’ participants use eCommerce services, such as the frequency, the devices used to access it, the types of retailers they use (if any), the drivers behind online shopping (convenience, price, exclusivity, etc). There are also elements that are concerned with the trust, confidence and risk side of the research, such as participants concerns for risk, and the elements they find assurances in such as brand recognition, payment options, offline presence, etc.

This theme had the largest number of codes and subcategories (as shown in Figure 66 below); it covered all aspects such as whether they make purchases on the Web, whether they only make purchases via a traditional device, what are the drivers for purchasing on the Web, whether they have concerns for the delivery aspect of the process, etc.

This category looks into the aspects of the Web that provide a form of direct or indirect assurance to the participant, the parts that have the capacity to influence how they use the Web and for what purposes. An interesting factor to emerge from this, is that the more familiar and experienced the participants are with the Web appeared, initially at least to be crucial factor in how participants perceived risks online. These codes and subcategories are almost entirely extracted from the follow-up interview.

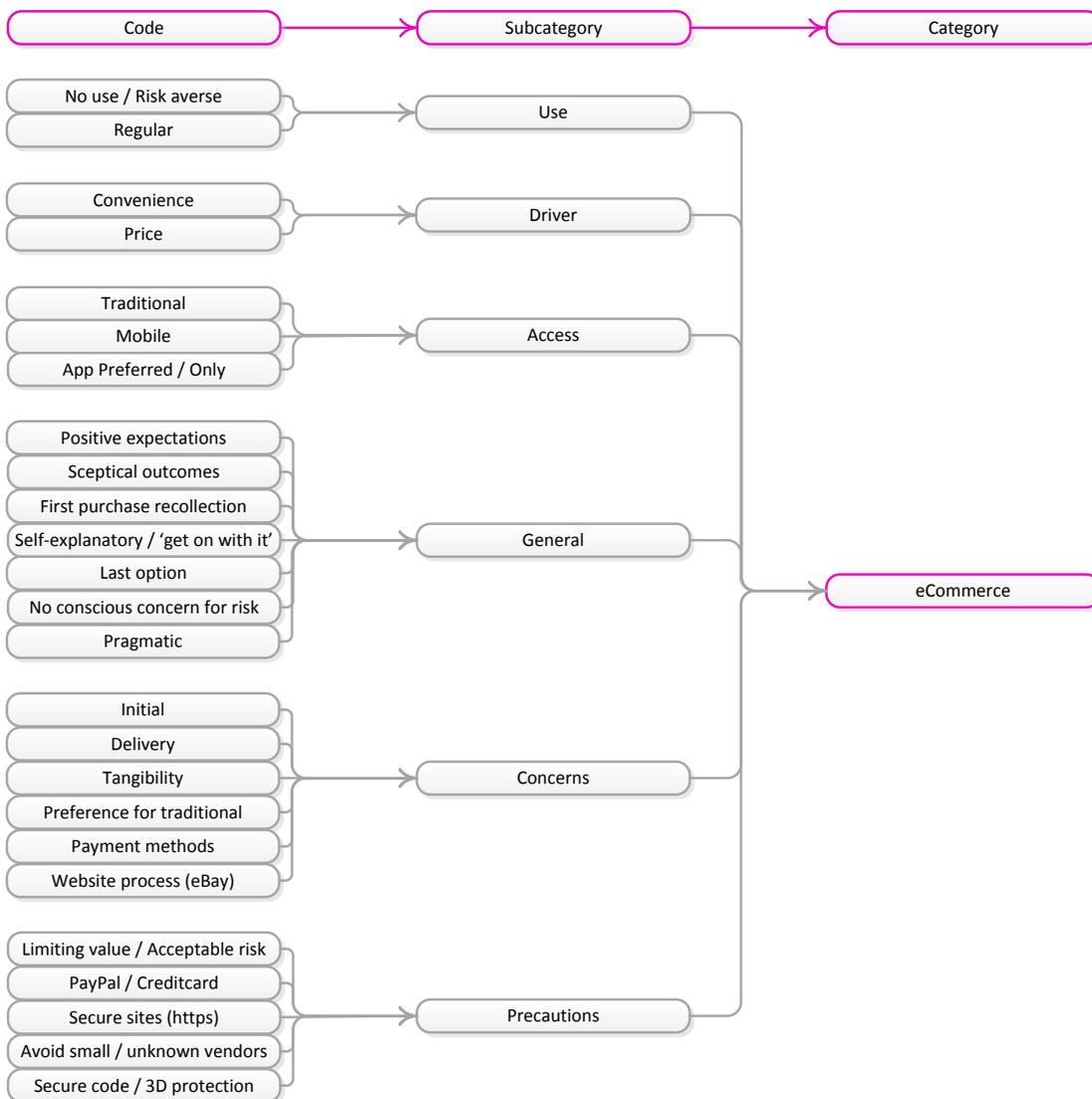


Figure 66: eCommerce (Coding Category)

P6 – *“I tend to buy online because it’s cheaper”*

P8 – *“because you get it cheaper, don’t you?”*

P14 – *“I’ll do it quite regularly, if I can avoid going to the shop, I will”*

6.4.3.3.2 ONLINE BANKING

Akin to the above, the online banking category shares characteristics with both aspects of the research – ‘Web use’ and ‘trust, confidence and risk’ – although it deals with sensitive personal and financial data, there is a difference in perception between online banking and electronic commerce. The difference becomes evident from the interview data, and it is for this reason that a separate category of ‘online banking’ is needed. The trade-off (risk versus convenience) between eCommerce and online banking differs in nature, as

there are different factors at stake and different perceptions to also consider. For instance, although eCom-merce and online banking can be considered to be supported by a basic trade-off between risk and conven-ience, the interview illustrates that the sense of assurances, the lack of choice, and fundamental perceptions of risk vary greatly.

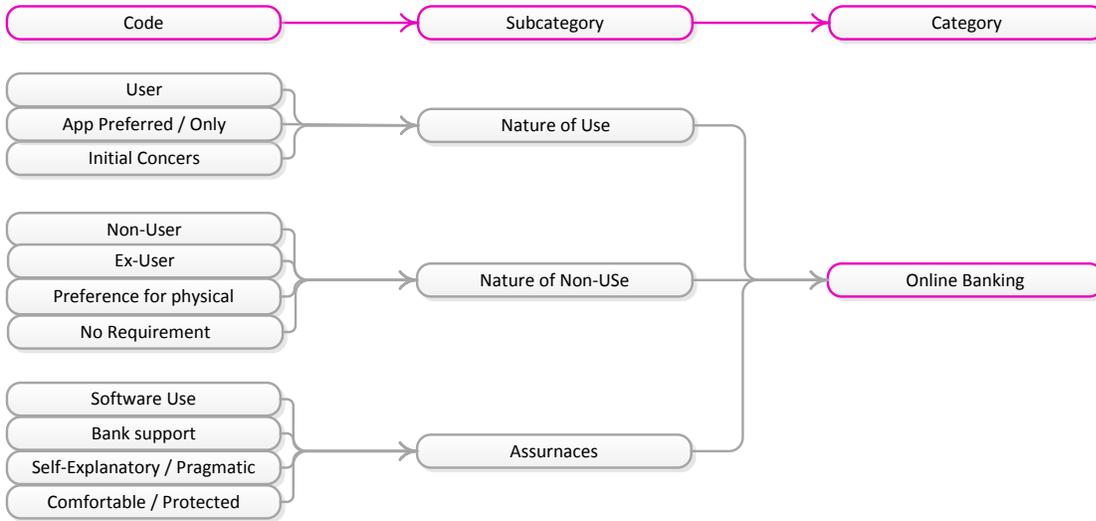


Figure 67: Online Banking (Coding Category)

P1 – *“the online banking is self-explanatory...they give you all the information in the branch, and the banks actually guarantee you for fraud protection”*

P10 – *“It’s not something I’m scared to use, cause you can always get your money back through the bank”*

P3 – *“I feel quite protected because obviously you’ve got all the extra security measures...like the secure key and things like that”*

6.4.3.3.3 SUMMARY

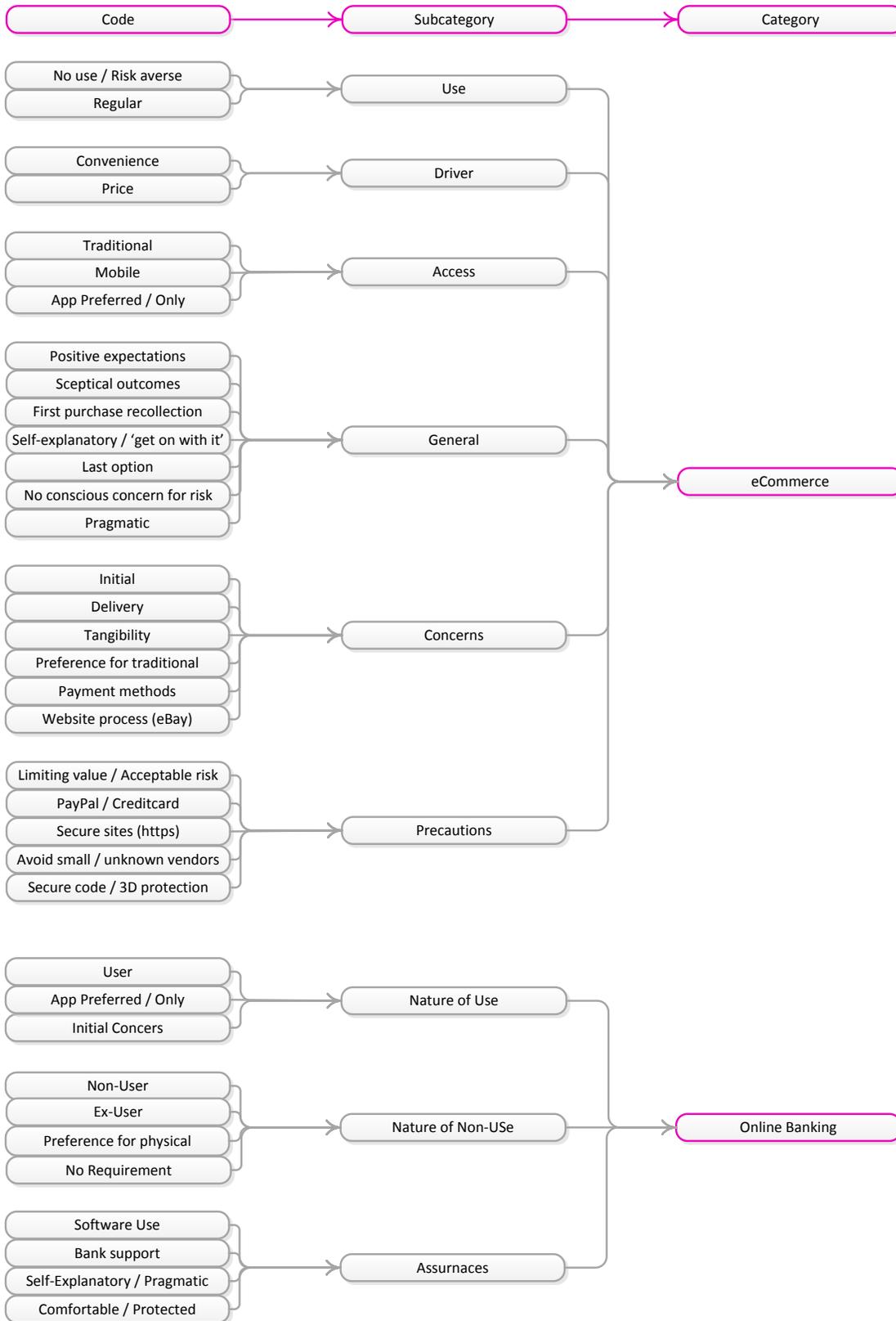


Figure 68: Overlapping Category (Summary)

6.5 EMERGENT THEMES

Themes emerge from the data analysis process, and as Saldaña (2009) explains, ‘a theme is an outcome of coding, categorization, and analytical reflection, not something that is, in itself, coded’. Themes are patterns, trends or concepts that can be drawn from the research and are grounded in the data analysis coding process. A summary of the themes to emerge from the coding and categorisation process are outlined in the table below:

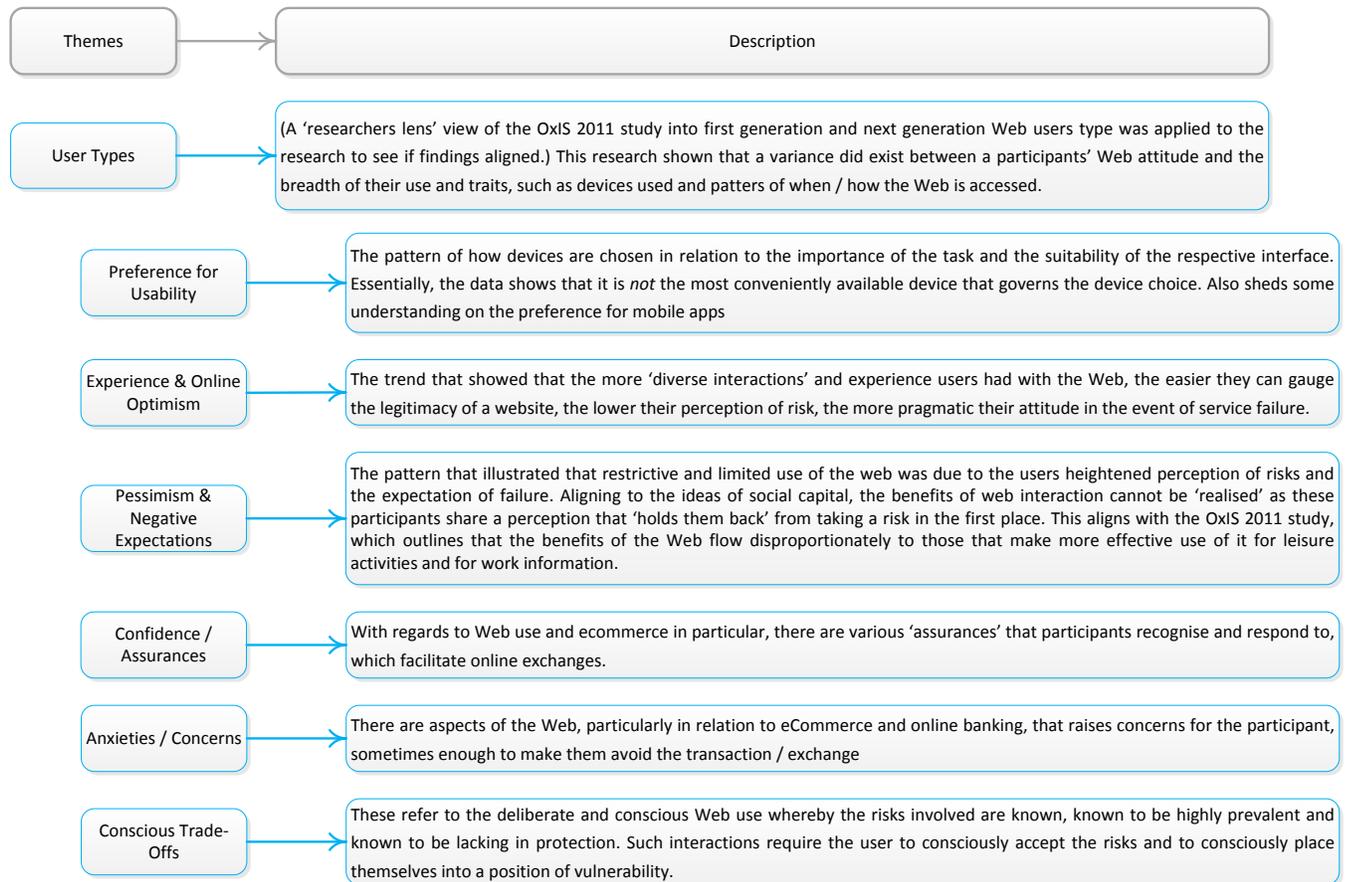


Figure 69: Emergent Themes

The ‘User Type’ theme has been separated from the remaining six as this category is something that shapes or relates to the remaining six, for instance the user type (NGU or FGU) would relate to the ‘anxieties / concerns’ that the user holds.

Overall seven themes emerged from the analysis, which corresponds to the work presented by Lichtman (2006) and Creswell (2007) who explain that, once organised, most qualitative research studies synthesize into five to seven major themes. The author followed the understanding of Saldaña (2009), who explains that ‘the final number of codes should be held to a minimum to keep analysis coherent, and that there is no

standardized magic number to achieve'. The next section outlines, explains and details the themes, their origins within the work and elements of the transcripts to support the connection from data to concept.

The themes as summarised in Figure 69 above are discussed in further detail in the following chapter.

7 DISCUSSION

The discussion chapter of the work is focussed on presenting and discussing the findings of the research. One of the central points to emerge from the literature – and later confirmed with the study – is the idea that confidence is the construct that facilitates the adoption and continued growth of the Web, not trust as the IS research suggests.

Following from the introduction, the chapter is broken down into the three following sections:

- i) The findings from the study
- ii) The relationship between the findings and confidence
- iii) What the findings add to the literature

7.1 RESEARCH APPROACH

The method used for the research was the diary study-interview approach, a technique that originally became prominent within the works of Zimmerman & Wieder (1977). The study was designed and implemented with a firm understanding of the challenges within this approach, and as a result the interview element of the research became the major source of data and a means of adding validity (See Chapter 5, Section 5.8).

The data was analysed for themes (hand-coded), which involved repeated cycles of coding and validation in order to create categories, and from this ‘themes’ began to take shape. Once the data had been coded and categorised, spreadsheet software was used to assist in the management and organisation of the data (Chapter 6, Section 6.3.2).

7.2 TRUST, CONFIDENCE & WEB

Prior to discussing the three sections outlined above, one of the central findings needs to be discussed, which is the relationship between trust, confidence and the Web. As explained within Chapter 4, it is the construct of confidence that facilitates Web interaction, not trust as the literature suggests. One of the core reasons behind this viewpoint is that a trust situation is not merely a decision in a situation of risk, it warrants much more besides. A trust situation is one that can only exist between people – not between people and systems – it necessitates vulnerability, a lack of protection, a lack of assurances, a lack of guarantees, a lack of influence and is a decision that is built upon a sense of competence, benevolence and integrity. And

through this, it starts to become apparent as to why trust is considered to be a 'leap of faith' rather than merely a straightforward exchange / decision.

Confidence on the other hand is a decision that can house guarantees and measures of protection, can exist between people and systems, organisations, objects, as it is a decision that is granted on the basis of competence and predictability.

This is further discussed in section 7.4.

7.3 RESEARCH FINDINGS

The previous chapter ends by touching up on the findings of the study, and it is within this section that they will be brought together and discussed further. There were six specific findings that emerged from the diary-study interview research, and two further findings which are more closely correlated with the literature and research into trust, confidence and Web behaviours.

The six key findings from the study are listed:

- i) Preference for usability
- ii) Experience & online optimism
- iii) Pessimism & negative expectations
- iv) Confidence / assurances
- v) Anxieties / concerns
- vi) Conscious trade-offs

The two findings that are linked more heavily with the background literature are (these are discussed in Section 7.5 Findings & Literature):

- vii) User types (OxIS study)
- viii) Confidence facilitates the Web (not trust)

As explained in Chapter 6 the most insightful and richer parts data emerged from the interview process rather than from the diary study itself. The diary study produced a kind of raw data, which when combined with the follow-up interview, would then create useable information with context and much greater meaning and insight.

7.3.1 PREFERENCE FOR USABILITY

As touched upon in the previous chapter (section 6.4.3.1.2 Mobile Device Use) the research shows that participants use different devices to access the Web and – more interestingly – they do so in different ways for different purposes. The researcher initially anticipated that Web access would be governed by the most conveniently available device, however the study uncovered that usability was the overriding factor, not necessarily convenience or perception of security. The interview data also shown there to be a preference for mobile apps over traditional means of access – a factor that further extends on this premise of usability above all else.

The data shows that participants (who aligned to the idea of an NGU) favoured mobile device Web access, and where apps were available, activities were no longer ‘postponed’ with the intention of being completed on a traditional device at a later time. When usability was *well supported* through a mobile app, access through traditional devices wasn’t necessary to the participant, they typically used the app version from that point forward. The fact that online banking was only accessed through the mobile app, and the reluctance toward using electronic commerce through mobile devices (excluding those who accessed via apps) were both strong indicators that participants had a larger concern for usability (ease of use and speed), rather than of security or of risk.

The research data eludes to two key points:

- i) Firstly, although the majority of an NGU’s Web use was conducted through a mobile device, users still ‘pushed’ particular activities to more traditional laptop or desktop devices. Usability was cited as the core reason for this, with some raising the point that (via a mobile phone), they found the interface:

P5 – *“I just don't [use phone for Web], you know it's too fiddling”*

P7 – *“using the internet stuff on your phone is a lot more faffy”*

P8 – *“I just couldn't be bothered going through all that on my phone”*

- ii) Secondly, and interestingly, when ‘risky’ web activities could be accessed with via a mobile app – such as online banking – the convenience element was met along with this need for usability. It transpired that users adopted the mobile app as the preferred, and in many cases, the only means of access for certain tasks, tasks which otherwise would have been carried out on traditional devices.

One of the central success factors of the mobile app from the authors’ perspective is that it gives the user:

- i) the ability to capitalise on the convenience element,
- ii) creates a means of interaction that is geared to suit the limited input options of the device,
- iii) designed around the environment that the device will be used and the way the user will interact.

Mobile app design typically compliments the need for simple login procedures by reducing steps; less data intensive by having only the most predominantly used functions available to not only support the functionality but also reduce bandwidth needs; interfaces designed around small screens to support easy operation in distracting environments (Balan & Gergle 2007; Zhang & Adipat 2005; Hussain & Kutar 2012). As the mobile banking app supports well the needs of the user, participants switched from traditional forms of access (laptop / desktop) to mobile access and strongly favoured the latter from that point forward.

7.3.2 EXPERIENCE AND OPTIMISM

The interview data implied that the more experience that users' had interacting and engaging with the Web, the more competent they felt with gauging the legitimacy of a website, the lower their perception of risk, the more pragmatic their attitude in the event of service failure.

This theme is relatively subtle but can provide useful insight into how attitudes adapt themselves online in response to the amount of experience an individual has with the Web, and the impact it has on the breadth of their Web use. As the interview transcripts were being coded, the code of 'pragmatism' was initially used as a label to describe certain aspects of behaviours.

P13 – *“[unknown vendor] sometimes I will double check if any of my friends have used that website before, or I'll Google it to get a second opinion”*

P10 – *“Well, depends how the website looks, if it looks too shabby, then wouldn't go on it, unless it's got PayPal or something on it. Recognition of company is key, but price always balances it up”*

From the research emerged a theme which indicated that the more experienced Web users hold a more practical, rational and optimistic view of Web interactions. Web use appears to be governed and facilitated through participants making decisions based on a 'logical balance', a type of 'trade-off', rather than on deep scepticism or blind optimism. Such a situation is one whereby unknown elements (i.e. a vendor or service that is unknown to the individual) are automatically assessed in terms of their plausibility and/or reputation, elements which in turn are built on experience.

P7 – *“what the website looks like would influence me...I'm not going to buy anything off something that uses comic sans... [with larger companies] there's obviously less of a sense of risk... recommendation makes a difference, it would influence me”*

P8 – *“[emails asking] to send your bank details and all that nonsense, but I just ignore them because it's obviously a scam... you know if they're dodgy, you just know”*

Although both types of users, optimistic and pessimistic were often knowledgeable about the risks of various online activities, experienced users had a more positive and/or pragmatic attitude toward the:

- Likelihood of these risks being realised
- Impact it would have
- Means of rectifying it afterwards

Experienced users carry an outlook that sees the likelihood of an online risk occurring as being low, and in the event of such, it is seen as being little more than a temporary inconvenience – Web interactions are seen as a trade-off worth taking.

7.3.3 PESSIMISM & NEGATIVE EXPECTATIONS

From the research came a finding which indicated that restrictive and limited use of the Web was due to the user's amplified perception of risks and amplified expectation of failure. Participants with a pessimistic view of the Web heighten the likelihood of a negative event occurring, and furthermore increase the perceived impact caused by it. Having a disposition which supports a negative outlook of Web interactions by default can be regarded as ignorant, particularly when the specific viewpoint is held without any direct first-hand experience to warrant for it. This was found to be the case with several participants, as is shown with the below extracts from the interview data.

P1 – *“I second question anything these days...just don't do it, I don't like anything where I have to put my card details in so I don't do it”*

P12 – *“I don't like having banking details on my phone, I know it's safe and secure but I'm not ready to use that yet... I'd rather use phones [than the Web] if I needed to speak to someone if its customer service based”*

P10 – *“[no online banking] not as secure as going to the cash point.”*

7.3.4 CONFIDENCE / ASSURANCES

With Web use and eCommerce in particular, there are various ‘assurances’ that participants recognise with and respond to, which facilitate online exchanges. The central point of this theme is that it indicates that confidence acquired through assurances is what fuels eCommerce and much of Web interaction in general. It isn't trust.

As explained within Chapter 5, the interview questions 2, 3, 4 were designed based on the literature whereby the responses could in some way indicate whether the user was operating under a sense of confidence or one of trust. The impressions of assurances, protection, reputation or safety are elements that can exist within confidence, but not within trust, as trust is about decisions and commitments that do not house such traits.

P5 – *“I buy a lot of products on Amazon...safe websites that I recognise, that I know of, if they're a well-known company, then that's why I trust them...I can always chase them or find them if anything goes wrong”*

P3 – *“I look at reviews and things on the website you know, to check that they seem legit and stuff, I've never worried about the risk when it's [eCommerce vendor] been recommended to you”*

P9 – *“even with eBay or Amazon, if it goes wrong, you have to follow through a system which is long winded”*

The participants interact with online services because of the assurances that are felt through elements such as payment protection measures, company size, reputation, guarantees, etc. Each of these assurances aligns to the idea that *risky* online services are facilitated by confidence, as a trust situation cannot house measures of protection.

7.3.5 ANXIETIES / CONCERNS

There are aspects of the Web, particularly in relation to eCommerce and online banking, that raise concerns for the participant, sometimes enough to make them avoid the transaction / exchange. The study indicated that there are aspects that users feel apprehensive about, activities or parts of activities where individuals sense risk, where they are consciously aware of potentially negative elements. It correlates in part with the findings of confidence / assurance; one indicates elements that facilitate interaction; another outlines elements that often act to hinder it. This part of the research became apparent when coding and categorising the data as the researcher identified with actions or statements that connected to the idea of anxiety or a conscious concern for some aspect of the Web. The majority of such were expressed, as expected in reference to activities such as online banking and eCommerce, however aspects also became apparent with reference to social networking.

P13 – *“I worry people finding out my information or leaving it logged in by accident and people finding [personal profile] details”*

P4 – *“didn't want other people seeing my profile...you don't want them scouring your personal life”*

Although the diaries provided a space to detail aspects of anxieties or concerns with its second guiding question of ‘did any of these things involve a sense of risk...?’ the majority of diarists left this section blank. The bulk of the data to support this theme was extracted from the interview, and largely around the questions centred on eCommerce and online banking. Participants had concerns around:

- Smaller, typically unknown, eCommerce vendors (with some taking the practical approach of limiting their spend or researching into the vendor prior to making a purchase)
- Social networking and the accessibility of personal profiles to unknown Web users
- Payment method outside of the preferred methods (i.e. PayPal)

The interviews shown that the research participants often had a greater sense of risk toward the Web than their diaries indicated.

7.3.6 CONSCIOUS TRADE-OFF

The idea of the conscious trade-off refers to the deliberate and conscious Web activities where the risks with interacting are not only known, but known to be highly prevalent and known to be lacking in protection. Such interactions require the user to accept the risks and to do so consciously.

This was a pattern within the data whereby participants accepted major risks (known, expected and experienced risks) in exchange for illegal and illicit content. The most peculiar aspect of this was that the five participants who engaged with these activities were entirely aware of the risks, and accepted the fact that they were putting themselves in a position of vulnerability in relation to the security of their data. Risks were accepted, precautions were minimal or non-existent yet participants persisted in searching and downloading such content. In most cases the content and the websites were illegal (and known to be illegal by the participants), yet this did not deter behaviour. Most participants had experienced many of the risks first hand, in the form of a computer virus, spyware, etc., yet their attitude was pragmatic and behaviour remained largely unchanged.

P6 – *“actually to be fair, the dodgiest thing I do is with porn...[but] it's the fact that you're only risking your computer as opposed to your personal information”*

P9 – *“yeah, [downloading movies] I don't even think about it...if you get around to watching it, or watch the first five minutes and think, ‘delete that’... virgin media blocked certain websites...they basically employed nerds to get rid of the nerds...I've had people take over my laptop...the thing I think is the worst thing is the time it consumes [to reboot]”*

P10 – *“if I'm downloading stuff like torrents, then it is a risk because I don't know what's going to happen to my laptop, I've had problems with spyware and viruses... there's blocks on the website, but you can still get around it using a proxy”*

P13 – “when downloading TV series it [spyware] kept trying to download stuff on my laptop...but then I found one that I could use all the time and nothing’s happened”

It was labelled as ‘conscious trade-off’ due to the contradiction that emerges within the data for the particular users. The same five participants mention the awareness and concern for risks with regards to legitimate activities; they mention the value and importance of assurances, payment protection measures and sense of protection from the reputation of the operators. Yet, these *other* activities, illegally downloading or streaming illegally TV or film content or viewing pornography have a complete lack of protection, no assurances (due to illegality) and first-hand knowledge of risks. Participants within this research not only understood the risks, but having experienced them first-hand, they continue to make the trade-off (although in some instances they put in their own measures such as relying on certain websites, file types or installing anti-virus software). It can be stated that access to the content overrides the risks, despite their increased susceptibility, vulnerability and total lack of assurance, openly accepting the trade-off despite the huge and ever-present risk to data security.

7.3.7 SUMMARY OF FINDINGS

The six key findings to emerge from the study are summarised in the following table

Finding from Study	Explanation
Preference for Usability	The study indicated that usability is one of the central elements that govern users’ choice of which device is used to access the Web of Web access device. Participants varied the device around the nature of the task (i.e. use laptop for eCommerce and mobile app for accessing online banking) and the interviews uncovered that the ‘easiest’ to navigate is typically the preferred choice. It isn’t necessarily shaped by perception of risk or the most conveniently available device to hand.
Experience & online optimism	This trend shown that those users with the most diverse and varied Web use held the most pragmatic and confident attitude toward the Web in general. These users felt in control and better able to rely on their own judgements, often built up over years of experience.
Pessimism & negative expectations	The finding also emerged that restrictive use of the Web (i.e. on a needs only bases) was correlated to the participant holding a heightened perception of risk. Such users supported the belief that things will ‘go wrong’ and as a result Web interactions were typically narrow, although frequency of access remained just as high
Confidence / Assurance	It was prominent within the interviews that participants attitude toward the poten-

ances	tial risks of using online services (such as eCommerce or online banking) are influenced by elements such as payment protection systems, company size, reputation, guarantees, etc. As discussed later, these elements align to the idea that Web interactions are facilitated by confidence, and not trust.
Anxieties / Concerns	In contrast to the above, the study also indicated that there are aspects of the Web that users feel apprehensive about, activities or parts of activities where individuals sense risk, where they are consciously aware of potentially negative elements and behave accordingly (i.e. cautiously or not at all).
Conscious trade-offs	This was a pattern within the data whereby participants accepted major risks (known, expected and experienced risks) in exchange for illegal and illicit content.

Table 14: Findings from Study

7.4 THE RELATIONSHIP OF FINDINGS & CONFIDENCE

As expected, the majority of the insight came from the interview transcripts which provided not only detail into *what* the participants do and don't do, but also *how* and *why* they use the Web. Using the literature from Chapters 2 and 3 as a backdrop, some of these themes were partly anticipated, whereas others, such as conscious trade-offs were an unexpected outcome.

The role of this subsection is to take what is known about confidence and its relationship with the Web – as discussed in Chapter 4 – and overlay it with the findings as presented in the above table.

Finding from Study	What it says about Confidence
Preference for Usability	This adds to the understanding that the Web is facilitated by confidence and not trust. The fact that Web users have a preference for usability over other such elements such as security suggests that participants' access is concerned with efficacy (speed of use, ease of use, access), not risk, security or protection.
Experience & online optimism	This finding had one of the strongest correlations to the background work on confidence and social capital. The confident Web user attitude – typically shaped by factors such as social capital, developmental experiences, culture, personal experiences, personality – carry with them a positive expectation of interactions. These types of participant have a wide range of Web use, are more willing to take risks and are pragmatic toward the nature of risk. They are not excessively risk-averse.
Pessimism & negative expectations	Inexperienced users, and particularly those who carry heightened levels of scepticism and/or negative expectations with Web interactions, have a severely restricted

	<p>and risk-averse attitude toward it. At an early phase in the data analysis, it was apparent that a commonality can be drawn between pessimistic Web use and societies with low social capital – the environment where basic cooperation alone is often deemed to be outside of the scope of many individuals natural responses (discussed more in-depth within the following theme).</p> <p>From a theoretical point of view, and from the research data, the same personality trait should be applied to the online context as it would deliver the same outcomes, i.e. negative expectations and unwarranted scepticism:</p> <ul style="list-style-type: none"> - Increased transaction costs - Limited or minimal cooperation - Inefficiencies or efficiencies overlooked due to the heightened perception of risk - Unrealised benefits of the Web <p>Risks are not accepted, cooperation cannot ensue, processes remain inefficient but, potentially the trade-off is that they can remove the chance of harm, by eliminating risk.</p>
<p>Confidence / Assurances</p>	<p>This aligns to the understanding that confidence is what drives the Web, not trust. The sense of protection and the ability to protect oneself from potential harm (in the form of negative outcomes) is a key factor that supports Web interactions as it gives users assurance.</p> <p>The difference is outlined within the literature, which explains that trust has to include an element of vulnerability, a lack of alternatives (Luhmann 1990, risk and inter-personality that cannot be achieved online. Trust cannot <i>work</i> in the online environment due to the:</p> <ul style="list-style-type: none"> - Presence of protection measures, - Fact that the stakes involved are ‘too small’, - Lack of vulnerability, - Due to the fact that trust only exists between people directly, not between a person and an interface, organisation, government or object. <p>As the literature illustrates in Chapter 4, trust is about competence, benevolence and integrity – whereas confidence is about competence and predictability – and as Riegelsberger, Angela and McCarthy (2007) outline, ‘strong benevolence as identi-</p>

	<p>fied in long-standing relationships between humans does not apply to eCommerce'. As bold as this statement may appear, the literature shows that trust isn't the construct that – despite the volumes of research written on the subject – facilitates Web interaction and specifically eCommerce.</p>
Anxieties / Concerns	<p>Anxieties / concerns relate to elements that work to negatively influence the impressions of competence and predictability of (in this instance) an online vendor / service provider. As pointed out in Chapter 4, both these impressions of competence and predictability are critical components that facilitate a confidence based decision.</p> <p>This finding overlaps with the optimistic and pessimistic personality types in that pessimistic users are likely to perceive more concerns / anxieties than the optimistic. Their decisions will be influenced negatively with the likely outcome of being not to engage / interact / take risks.</p>
Conscious trade-offs	<p>This finding was attributed to those users that were considered to be amongst the most 'confident' with a wide-ranging span of Web uses. The confident users are seen to have a pragmatic, more rational – even by their own account often 'risky' – attitude to particular Web interactions, with some knowingly downloading illegal, pirate content. Within these interactions the participants are aware of the risks and the fact that they cannot always be mitigated from, yet they still proceed.</p> <p>What would appear to be the greater of the 'Web risks' are knowingly taken by the most optimistic and confident of users, something that aligns to the work on generalised trust and social capital.</p>

Table 15: Relating Findings to Confidence

The above shows that although each of the findings has a relevance to the construct of confidence and how it functions in the Web context, it is also apparent that parts of the findings are also strongly correlated with others. Taking the understanding that confidence is what facilitates the Web allows us to see that Web behaviour is respectively influenced by and related to confidence. The connection can be legitimately made that what confidence is and how it influences our personalities in the offline (real) world is mimicked in the online (virtual) world. This is discussed further in the following subsection.

7.5 FINDINGS & LITERATURE

This subsection is handled by expanding upon the two findings that are most strongly related to the literature in order to understand what they are and what they contribute to the body of knowledge. These ‘overall’ findings are listed in section 7.3 above as:

- i) User types (OxIS study)
- ii) Confidence facilitates the Web (not trust)

The six study findings (as presented in table xx above) are discussed on a more general level so as to ensure that work isn’t unnecessarily repeated.

7.5.1 USER TYPES

This finding differs from the main six that emerged from the study as *user types* are a concept that was derived within the literature, specifically from the OxIS 2011 study into Web user types (Dutton & Blank, 2011). During the coding process, the OxIS study was used as a lens to ‘look through’ on the analysis of the data to see if a similar pattern existed within this work; and investigate for any patterns that align to this idea of FGU and NGU types. The point must be made that this research into trust, confidence and Web behaviour was not designed around the findings of the OxIS study and in no way was it intended to accommodate it. Identifying user types may help in later stages, particularly for future work and to see how significant such a categorisation is.

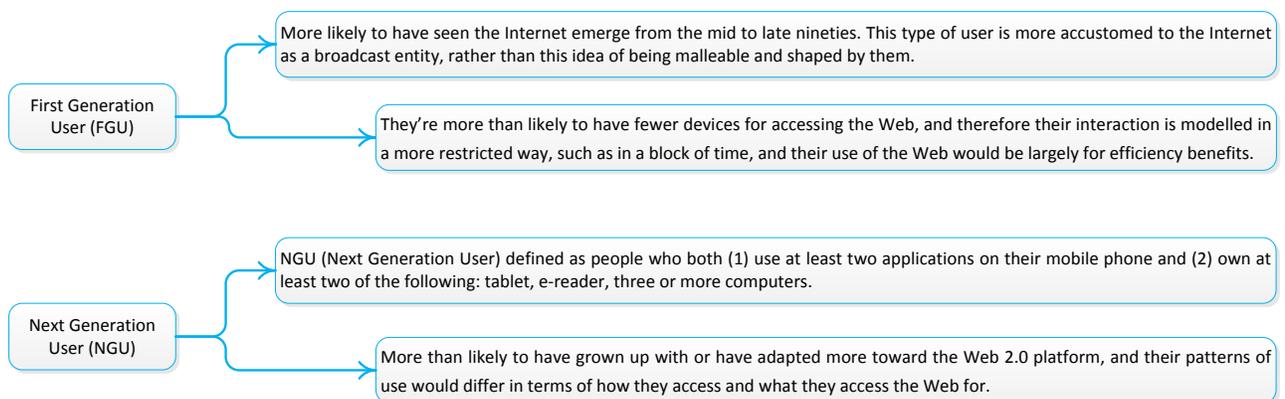


Figure 70: Web User Types (OxIS 2011 Study)

The study shown that a variance existed between a participants’ attitude toward the Web and the breadth of their Web use and their traits, such as the devices they typically used, the patterns of their use and how they chose to access the Web.

The research data identifies with the OxIS report in that there are distinctions that can be drawn between the users with regard to both their use and attitude toward the Web. The analysis showed that some patterns could be found, for instance how:

- Use was mediated depending on the device
- Some users interspersed their Web use throughout the day for short periods
- Others only accessed the Web in a solid block of time from one location and only ever using one device

Unlike the OxIS 2011, the use of social networking was not a determining factor to distinguish between FGU and NGU alone (as the significant majority were users), but an element that did correlate to the OxIS 2011 study was the breadth of participants' Web use. We found that some of the heaviest of Web users had an incredibly narrow range of use that rarely moved beyond social networking.

P12 – *“other than Facebook and Twitter, I just look for holidays and houses, that’s my main thing”*

P15 – *“I use my phone for everything...in the morning I use Facebook like a newspaper”*

The limitation here is that the study was not designed to research into the field of user types from the outset, and although similarities are apparent, the author believes them to be deemed as an area of exploration for potential future research, rather than something robust upon which findings can be drawn. Significantly more users and a revised research method would be required to extract such findings with necessary conviction. In spite of this, the author believes the similarity within this study to be more than mere coincidence. The study found that there are distinct differences in attitude toward the Web, and this attitude impacted on how participants used and behaved with regards to it.

This point on user types both adds to and correlates with the existing literature in that:

- i) It recognises that users can largely be categorised into FGU or NGU which will shed light upon vast swathes of their typical Web behaviour and attitudes
- ii) The study counters the OxIS idea that user type (FGU or NGU) can be determined by the use or non-use of social networking alone. The study here found that the participation in social media was commonplace throughout the range of participants, irrespective of whether they were found to be FGU's or NGU's.

7.5.2 CONFIDENCE FACILITATES THE WEB

Literature shares the consensus that trust is crucial to the continued success and development of the Web, the problem exists that this was a connection that is taken largely for granted (Luhmann 1990; Connolly 2007), and secondly the understanding of trust is also given much the same treatment (Nissenbaum 2001).

Through the literature, the relationship between trust and the Web appears convincing, yet the lack of definition or conceptual understanding provided for it, added to the original problem; that ‘we know much better what trust does than what trust is’ (Castaldo et al. 2010). Through researching into the core concept of trust, using literature from philosophers and social scientists, it gradually becomes apparent that as the understanding of the trust construct emerges, a disparity also appears between it and the ideas behind how it operates within the Web context. As is explained within Chapter 3 above, the research into trust highlighted numerous understandings, contentions and perspectives, which in itself presented a significant challenge when attempting to formulate a working definition.

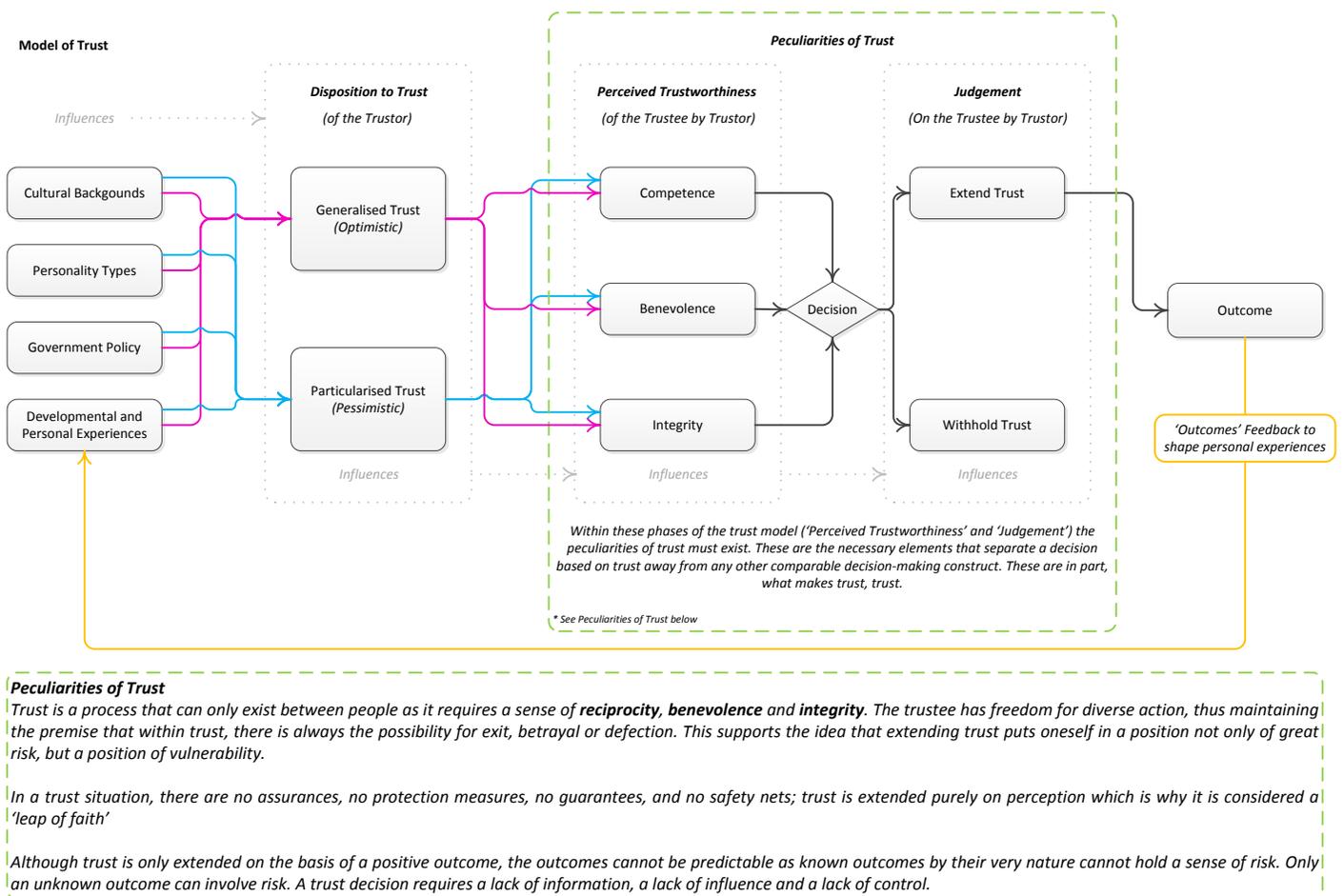


Figure 71: Model of Trust

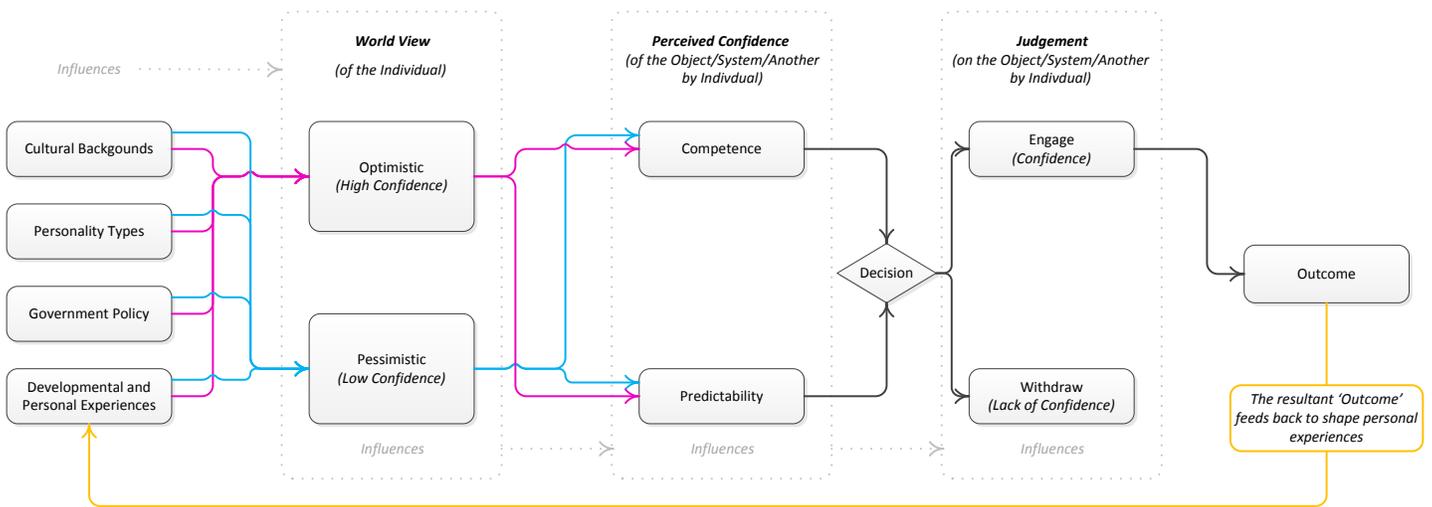
“Trust is a judgement based on the perception of another person’s benevolence, integrity and competence; it is characterised by risk, a need for vulnerability, uncertainty of outcome, a lack of control, lack of information, lack of influence, and carries with it no measures of protection, guarantees or assurances. Trust is only extended on the basis of a positive expectation, as the damage caused by the abuse of that vulnerability is greater than the benefit being pursued. Once trust is broken it can never be repaired”

Illustrated within this chapter is the model of trust that was created (Figure 71 above), the reason for modelling this process was to show *clearly* the stages, contingencies, and necessary components that are deemed to be applicable within a trust situation. The close relationship between trust and other decision-making constructs – namely risk and cooperation – resulted in focus being applied to the most comparative concept, confidence (Mayer et al. 1995), which is understood as:

“The belief that certain future events will occur as expected and is characterised by specific reason based judgements on experience, evidence, familiarity, measures of protection (adapted from Siegrist et al. 2005)”.

Again, taking account of the literature enabled a model of the process to be formed.

Model of Confidence



How Confidence Differs From Trust

Like trust decisions, confidence is also granted on a positive expectation, but the element of risk can be reduced and there is no requirement for vulnerability.

A confidence process relies on the perception of competence and the predictability of the outcome. Unlike trust, confidence is a process that can exist between a person and an object, system, or indeed another person; trust can only be extended between people.

Confidence often has inherent protection measures in the form of guarantees, assurances, come backs, and the implementation of sanctions, all of which combined can reduce risk to insignificant levels. As a result, confidence decisions can become automatic, habitual responses that are not consciously considered.

Figure 72: Model of Confidence

It is worth noting the similarities between these two models as they go some way shed light on why trust and confidence are terms that are commonly confused and often referred to as one and the same. Both the literature and the models show that trust and confidence *are not* the same thing (Luhmann 1990). Bringing this back to the research question of “understand trust and confidence and how they work on the Web” outlines that, in terms of the literature and the models, trust cannot operate on the Web. The second part of this chapter explains the rationale behind this viewpoint (see section 7.5.2.7 below).

Regardless of whether it is trust or confidence, the first stage of the model – the development of and process of dispositional tendencies – is the same and is crucial in either case as this is the factor that moves the

individual into the second stage of the model. This second stage is whereby the understanding emerges that confidence drives the Web.

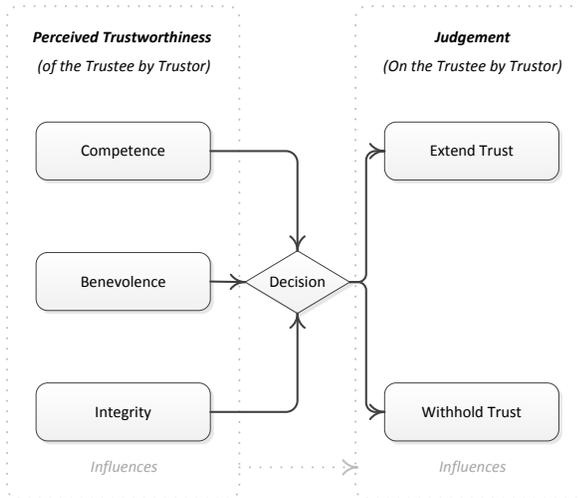


Figure 73: (Stage 2) Trust Model

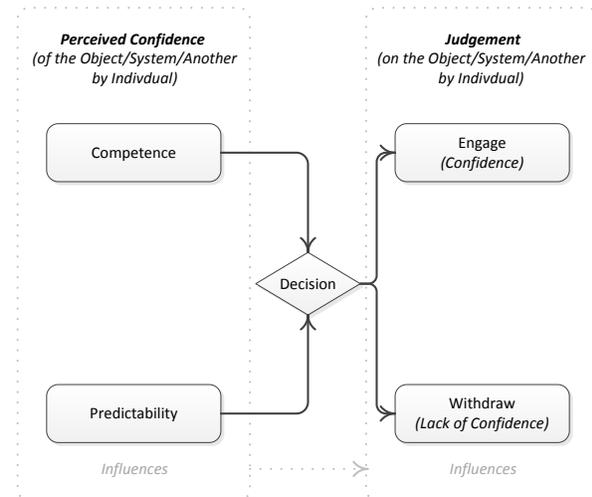


Figure 74: (Stage 2) Confidence Model

This second part of the model (labelled as ‘perceived trust’ in Figure 71 and ‘perceived confidence’ in Figure 72 above), the part that shows the person’s ‘assessment’ differs, as the contextual factors in each process are also different. As Figure 73 above shows, trust requires integrity and benevolence which are human personality traits, and cannot therefore legitimately be supported in a situation isn’t between people. As explained by Seligman (1997) trust can only exist between people, and this aspect of the model is the fundamental reason why objects, processes, interfaces, organisations – essentially, anything not classed as a human actor (Offe 1999) – cannot support trust as they cannot hold a sense of integrity or benevolence for a trustor to assess. In addition, a fundamental element of the trust construct is that it demands for the trustor to be in a position of vulnerability, which is why the need to assess integrity and benevolence of the trustee is such a prominent concern (Connolly 2007; Mayer et al. 1995). One central theme that comes from the research is support for this notion; this idea that much of the *riskier* Web activities are facilitated by assurances in the form of protection measures. These assurances are a trait of confidence, not of trust. There can be no guarantees or protection with trust (Adams 2005), as that is one of the elements that make trust *trust*, and stop it from being something else such as confidence.

7.5.2.1 TRUST APPLIED TO THE WEB

Finding mere slithers of what appears to support the idea of trust online whilst neglecting its other properties does not automatically equate to the idea that trust can exist on the Web (Nissenbaum 2001). All the characteristics of trust – these *peculiarities* – are necessary for the situation to be one that is unequivocally driven by trust. It appears that this is one of the reasons behind the confusion between trust and the Web; these ‘peculiarities are what makes trust *trust* and are either taken lightly, individually or are typically ignored within much of the literature (Connolly 2007).

Annette Baier (1960) explains that, trust is accepted vulnerability to another’s possible but not expected ill will (or lack of good will) toward one...it is the reliance on the others’ competence and willingness to look after, rather than harm, things one cares about which are entrusted to their care. Trust involves giving discretion to another to affect one’s interests’ (Hardin 1992), it is some sort of belief in the goodwill of the other, given the opaqueness of other’s intentions and calculations’ (Seligman 1997).

From acknowledging the peculiarities (as summarised in table 16 below) it gives a sense to the ‘spirit’ of trust and the importance of its inherent characteristics and why they cannot be overlooked.

Characteristics	Trust	Confidence
What is it about?	Decision-Making Belief Uncertainly	Decision-Making Predictable outcomes Competence
Requirements	Integrity Benevolence Uncertainty Vulnerability Competence Reciprocity	Predictability Competence
Risk	Required Considerable	Not necessary Can be mitigated from
Breakdown / Failure	Internally attributed Regret Once broken, cannot be repaired More damaging than the advantage being pursued	Externally attributed Chance Measure can be taken Unfortunate
Parties	Extended to other people only	Extended to people, systems, objects, governments, organisations, entities
Key attributes	No control No influence No protection No guarantees No assurances Extended on the belief of positive expecta-	Measures of protection Risk can be mitigated from Extended on the belief of positive expectation Decisions can be habitual

	tion Decision is always consciously considered	
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Table 16: Trust & Confidence Characteristics

On analysing the construct of trust when applied to the Web, the author finds that many of the specifics of trust cannot be fully or comprehensively supported. An example of this can be seen in assurances, which come in the form of recommendations, reviews, reputation and guarantees work to produce expected or predictable outcomes, not to mention the reduction in risk perception that such assurances also deliver.

As explained earlier (and as implied within the definition), trust can only function between people due to the sense of obligation, reciprocity, impressions of benevolence, integrity and importantly the trustees freedom and his disturbing potential for diverse action. Reciprocity is the core idea that trust only exists between people. We understand that trust requires reciprocity and ‘only persons, as social actors, are capable of following norms, including reciprocity, compliance with which is necessary for the reproduction of trust’ (Warren 1999). A vital aspect that is apparent from the literature is that the trustee (trusted person) must be able to become aware that she has been trusted, and develops a sense of obligation towards the trustor (Nissenbaum 2001; Warren 1999). Offe (1999) states explicitly, ‘only actors can be trusted, as they are the only units capable of reciprocating trust’. Each will be aware of their position within the relationship, the trustor knows that she is in a vulnerable position and that the trustee recognises that they’re in a position to take advantage (although they may chose not to). This is where the aspects of ‘perceived trustworthiness’, particularly integrity and benevolence of the trustee come into playing a critical role within the trust process. An individual will only extend trust, thus accepting the risk(s) and vulnerabilities involved based on their assessment that the trustee, although capable of taking advantage will consciously choose not to do so.

Bringing it all into succinct summary, the author believes the idea that trust facilitates Web interactions is misunderstood. If trust can only be trust in a reciprocal, person-to-person situation, underpinned by freedom of choice and action, then it cannot exist on the Web.

7.5.2.2 CONFIDENCE APPLIED TO THE WEB

When we take the comparable construct of confidence – both, its definition and its model – and apply it to the Web context, there is alignment. This connection that the Web is facilitated by confidence is further validated with the use of the data generated within the study; the assurances that facilitated interaction and engagement, the measures of protection, the subsequent reactions following failure all point to the premise that it is supported by confidence.

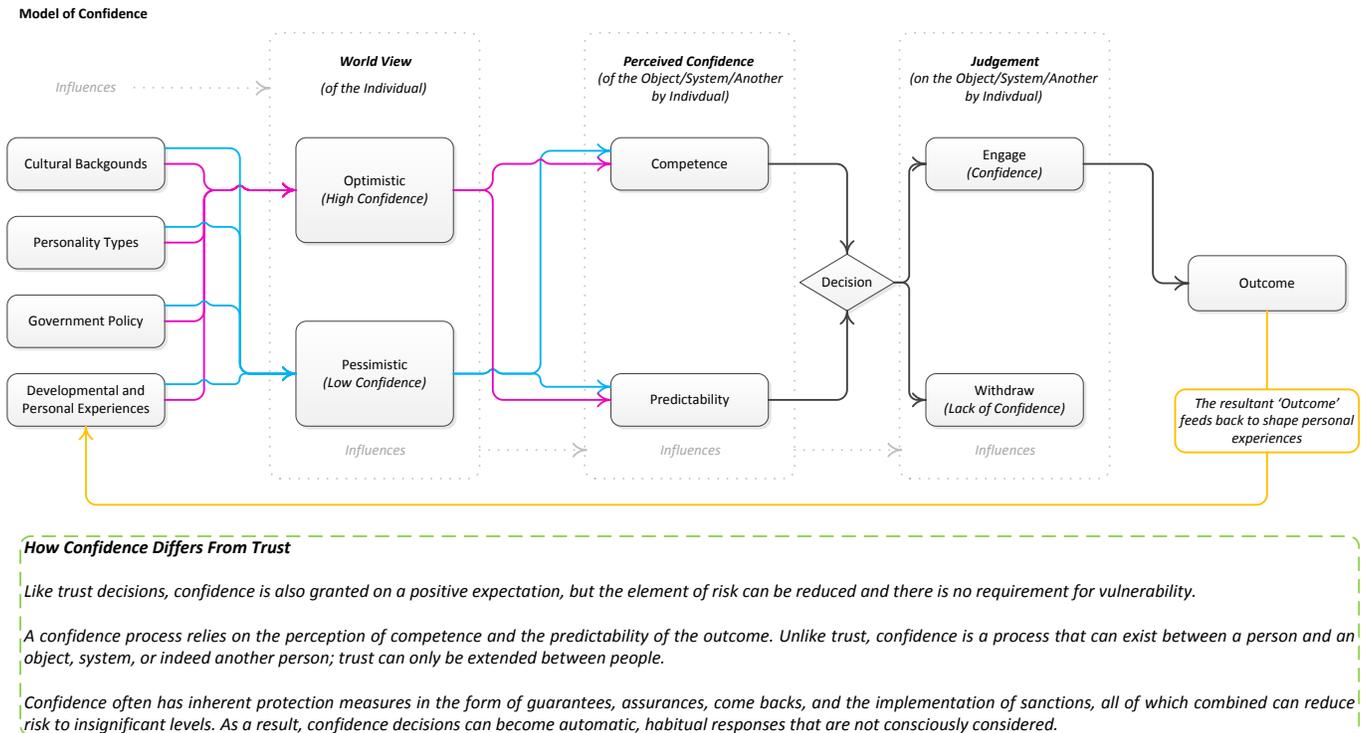


Figure 75: Model of Confidence

The initial section of the model is concerned with dispositional tendencies – akin to the model of trust – however the latter stage is the element that differs and the element that operates legitimately on the Web. The process of trust is about competence and predictability, both of which are attributes that are discussed above and both apply the Web.

Confidence Definition: *The belief that certain future events will occur as expected and is characterised by specific reason based judgement on experience, evidence, familiarity, measures of protection (adapted from Siegrist et al. 2005).*

In addition to this, on considering the definition of confidence it becomes immediately apparent that the process is much more linear and houses fewer characteristics in comparison to trust. To reiterate from Chapter 3, Section 3.2.2.3.2 above ‘the key distinctions between trust and confidence are these: Trust involves risk and vulnerability, it is important when familiarity is low. Confidence, on the other hand, is based on high levels of familiarity’ (Siegrist et al. 2005). The objects of trust are persons (or person-like entities), whereas confidence can be had in just about anything (Hamilton & Sherman 1996; Ullmann-Margalit 2004; Seligman 1997; Offe 1999; Warren 1999).

In summary, the elements outlined in Chapter 4 – the understanding of trust, confidence and the models of both constructs – add to body of knowledge. Secondly, the understanding that confidence facilitates the Web – not trust – is another important contribution to the IS field.

7.5.3 THE 'SIX' RESEARCH FINDINGS

As a result of the overlaps with the connections between the findings from the study and how they relate to confidence (section 7.4 above), the six study findings have been merged into four. The contributions to the field or how they correlate to the literature have been analysed and presented in the table below:

Finding from Study	How it correlates to the literature / Contributes to the field
Preference for Usability	<p>The two key points to emerge from this are:</p> <ul style="list-style-type: none"> i) The importance of mobile app design and the usability. Concerns with security are seen to be of less significance when compared to usability (ease of use, access and convenience) ii) Add confirmation to the premise that mobile devices are expected to be the predominant means of accessing the Web (Brodkin 2008)
Experience & online optimism Pessimism & negative expectations	<p>These finding had one of the strongest correlations to the background work on generalised trust and social capital. It supports the idea that generalised trust (optimism) carries with it a more open attitude toward risk acceptance, with the opposite being true of particularised trust (pessimism).</p> <p>Corresponds with the OxIS study that Web 'user types' are not only a legitimate finding, but secondly they are a useful tool for analysis. It shows a (preliminary) view that the use of social media alone isn't a strong enough indicator of user type.</p> <p>One of the major confirmations is that – akin to social capital in the offline world – the more confident Web user, the broader their Web use and as an overall result the <i>benefit</i> of Web use flows disproportionately to them. The issue is not merely access to the Web, it is <i>how</i> the Web is used that is more crucial – and how it is used is shaped by personal developmental experiences in terms of personality, culture, etc. This in turn leads to one of the main contributions with this finding which pushes the viewpoint that Web behaviours are essentially an extension of the offline ones. How we behave in the real world in terms of personality and attitudes toward confidence are mimicked in the Web environment.</p>
Confidence / Assurances	<p>This overlaps with the above, in terms of how a pessimistic mind-set works to increase factors of concern and anxiety overall. Simply put, risks are heightened and as a result, behaviours are influenced negatively, which can be seen through:</p> <ul style="list-style-type: none"> - Increased transaction costs

Anxieties / Concerns	<ul style="list-style-type: none"> - Limited or minimal cooperation - Inefficiencies or efficiencies overlooked due to the heightened perception of risk - Unrealised benefits of the web <p>If risks are not accepted, cooperation cannot ensue and processes remain inefficient but, the focus is on the removal of potential harm through the elimination of risk. Eliminating risk by refusing to take chances also means that the potential of enjoying the benefits of Web interactions are (as is the case here) also eliminated.</p> <p>Researching into the aspects of the Web that influence participant behaviour – i.e. the elements that give them assurance or causes them anxiety – adds to the field of knowledge as it supports the viewpoint that confidence is what drives the Web. From the study it becomes apparent that it is the impressions of competence and predictability that in turn shape the perception of risk as to whether it is acceptable or not. These are confidence attributes as the elements that work to build trust run much deeper and require consideration for much more.</p>
Conscious trade-offs	<p>Further emphasises the link between the Web and confidence as not only are the risks often downplayed by the users, but more tellingly, they have been previously succumb to the risks (in the form of viruses, etc) but continued to use.</p> <p>In the opinion of the author, the most interesting aspect of this finding is that the participants that involved themselves in such activities were some of the most ‘Web savvy’ individuals in the study. They were aware of and vocal about the types of risks that are present on the Web with more legitimate activities, such as online banking, or eCommerce and took various steps to ensure the safety of their data. However, despite the knowledge of risks, their attitude toward downloading of illegal content was much more relaxed and as one participant termed it ‘gung-ho’.</p> <p>The potential damage caused by the risks was downplayed to be more of an ‘inconvenience’ and as a result, the factors that would / should typically deter a user did not. It was merely overlooked as a risk worth taking.</p> <p>This adds to the understanding of confidence and Web as the greater risks are still made – knowingly – by the most experienced, knowledgeable, ‘savvy’ of Web users. It also aligns to the understanding of social capital / generalised trust in the offline</p>

	world whereby the benefits flow to those individuals that take the risks.
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Table 17: Study Findings and Contributions to the Field

Web behaviour appears to align to the literature on (offline) trust, rather than assessing the nature, likelihood and impact of the risk, the decision is taken to withdraw completely. Complete risk-aversion eliminates the chance of a negative event being felt (Fukuyama 1995; Offe 1999). Within society, maintaining this stance is seen to negatively impact upon the virtues of social capital. The author supports the idea that the equivalent outcome will be realised, albeit in the context of Web interactions. The virtues of social capital cannot be realised in a society of pessimistic, low trusting individuals, and the author believes the same will be applicable to their Web interactions. Holding (unwarranted, as in this case) negative expectations would translate the same online or offline – making one’s own life more difficult due to an individual’s automatic refusal to take a *chance* by accepting an element of risk. Supporting a pessimistic stance toward Web, or indeed traditional offline interactions would mean that there is little consideration applied to the potential benefit; the outcome is already predetermined as being negative, therefore an assessment of the possible benefits would not be necessary. There is little point in considering the potential positive outcome if pessimism has already determined, *rightly or wrongly* that the outcome will be detrimental.

Negative expectations, *pessimism* results in increased transaction costs – be it energy, time or monetary – inefficiencies, making one’s own life unnecessarily difficult. The benefits of cooperation cannot be realised (Riegelsberger, Angela & McCarthy 2007). When applied to the Web, the perspective was akin to the ideas of particularised trust within society (Fukuyama 1995). There were participants within the research who held a negative perception toward the Web, which the interviews found to be largely unwarranted, having been shaped by media hyperbole rather than first-hand experience. Despite information that challenges these perceptions, as well as the assurances in the form of guarantees that protect against the negatively held perception, their view and expectations of the Web remains unchanged.

The outcome? Processes are unnecessarily extended or conducted through more traditional offline means, although mainstream, accountable and guaranteed Web alternatives are available. Participants fail to experience the benefits that the Web can deliver, whether it is in terms of time efficiencies such as online banking, or even financial incentives such as eCommerce. Aligning to the ideas of social capital, the benefits of Web interaction cannot be ‘realised’ as these participants share a perception that ‘holds them back’ from taking a risk in the first place. This aligns with the OxIS 2011 study, which outlines that the benefits of the Web flow disproportionately to those that make more effective use of it for leisure activities and for work information.

7.6 SUMMARY

In summary, the literature and findings of the research correspond in that they both imply that confidence is construct that facilitates the Web.

Secondly, the factors that would influence and impact upon confidence in the offline world would be carried across to the Web. An individual that holds a pessimistic disposition to trust in the real world (a disposition that is shaped and influenced by culture, personal experiences, developmental experiences and personality) would carry the same traits on the Web. Pushing that point further, then the 'success' of the Web hinges more on the disposition to trust of the individual which is in turn shaped by elements outside of the Web. In other words, although the author draws on the understanding that it is confidence – not trust – that facilitates the Web, and irrespective of which it is, the attitudes toward both are shaped away from the Web rather than this idea of being able to 'create trust' or 'create confidence' on the Web.

8 CONCLUSION

In order to present a review, critique and conclusion to the research, this chapter of the thesis covers the following six key areas:

- i) 8.1 – Summary of the Research
- ii) 8.2 – Evaluation of the Research Goals
- iii) 8.3 – Critique of the Research Methodology
- iv) 8.4 – Research Findings
- v) 8.5 – Future Research
- vi) 8.6 – Contribution to Research

8.1 SUMMARY OF THE RESEARCH

The purpose of the thesis was to investigate the constructs of trust and confidence and to understand how they operate and influence Web use. The initial part of the research was focussed on gaining a comprehensive understanding and working definition of trust, and from this the rest of the study could be built upon it. The inherent challenge with researching into *trust* is to not only understand and define the construct, but to do so by effectively piecing together the notion of trust through surrounding literature – literature that often contradicts both itself and surrounding works.

It was early in this literature phase that it became known that although ‘trust has been studied in a variety of different disciplines – philosophy, economics, marketing, and psychology, to name a few – researchers have not always shared a common understanding of this abstract concept’ (Green 2007). Using the work of social theorists and philosophers, the focus was applied to the core concept of trust and from this the overlapping constructs of risk and confidence were also brought into account. From the research it began to emerge that trust is a three-part process, involving two individuals and an action: a person trusts another person to do (or not do) a specific action (Hardin 2001). The research also shown that trust as a construct is not only incredibly important to society, but is also an incredibly complex concept that is incompatible to the Web environment. Within IS research, in particular eCommerce, there is the firm understanding that ‘trust’ is the attribute that supports the Web in that it is the component that makes individuals use, engage and interact with it. When taking the core concept of trust from the literature, it shows there to be a *disconnect* between the idea of trust and its applicability to the Web environment.

The principle understanding of trust involves a process that can only operate within an interpersonal situation – trust has to be between people for it to be ‘trust’. Circumstances that are outside of this are facilitated

by similar constructs – such as confidence, cooperation, reliance, or familiarity – although, they are often referred to as being trust situations, further adding to the misunderstandings surrounding the concept.

Taking the understanding of trust, risk and confidence as formed through the literature, the next stage was to research into Web behaviour using a diary study-interview approach. The ultimate goal was to understand how the constructs of trust and confidence impacted and influenced upon how an individual uses the Web.

The diary study was designed to extract aspects of the participants' use, and this data was then used to support part of the follow-up interview process. Interviews were transcribed verbatim and hand-coded; from this seven key themes emerged. Taking the themes and applying them to the trust and confidence literature shows there to be a stronger link with the premise that confidence supports Web interaction, and in doing so adds credence to the notion that *trust* cannot legitimately function on the Web. The work also shown support for the OxIS 2011 study into user types (Dutton & Blank, 2011), which correlates with the idea that real-world (offline) attitude, experience and personality have a significant influence on Web behaviour. There is an appreciation that Web users are better and more accurately understood based on *how* they use the Web as opposed to *how often* they use it.

Although the study shown a strong indication that real-world (offline) elements are more significant predictors of Web behaviour than website characteristics alone, there is a great deal of further work that can come from this to narrow the understanding further and reach applicable outcomes.

8.2 EVALUATION OF THE RESEARCH

The literature, this *understanding of trust, confidence, and risk* was crucial in shaping the specifics of the adopted diary study-interview approach for gathering the research data on participants' social, domestic and pleasure uses of the Web. Although the use of a diary study isn't commonplace within the fields of IS, a core reason behind its choice lay in part with the constraints of the research (time, geography, ethical considerations), and fundamentally with the observational freedom and potential for serendipitous discovery that such an unobtrusive method can support. The design was based around the premise that i) the diary provides an impression of the participants' Web use – *what* they used the Web for, *how* and *when* they accessed it, and ii) the follow-up interview provided the context to add further richness to this data – the *why* behind participants choices. This enabled a robust impression of the participants' Web behaviour to be established.

The evaluation of the research goals – the research question, aims and objectives – are organised into the table below (Table 18)

Stage	Research Finding
Research Question	
The research question is to understand trust and confidence and how they work on the Web.	The literature into trust shows that the core concept of trust is something that cannot legitimately function as a construct within the Web environment due to the requirement of it to exist between people; in addition to other peculiarities (see Chapter 7.5.2 and Table 16)

Research Aims	
To gain an understanding of risk, trust and confidence	<p>Risk Definition: Risk is exposure to a proposition of which one is uncertain, it is characterised by the importance of outcome to the individual involved and requires both exposure and uncertainty.</p> <p>Trust Definition: Trust is a judgement based on the perception of another person's benevolence, integrity and competence; it is characterised by risk, a need for vulnerability, uncertainty of outcome, a lack of control, lack of information, lack of influence, and carries with it no measures of protection, guarantees or assurances. Trust is only extended on the basis of a positive expectation, as the damage caused by the abuse of that vulnerability is greater than the benefit being pursued. Once trust is broken it can never be repaired.</p> <p>Confidence Definition: The belief that certain future events will occur as expected and is characterised by specific reason based judgement on experience, evidence, familiarity, measures of protection.</p>
To understand how these constructs work in the Web environment	<p>Risk – Legitimately functions within the online environment, but is by nature a construct that depends upon personal perception</p> <p>Trust – Due to the inherent components of trust, the author carries the belief that it cannot function within the online context</p> <p>Confidence – Is the construct that facilitates and influences the use of the Web</p>
To illustrate a model of Web trust	Chapter 3, Section 3.4

Research Objectives	
Identify key aspects of Internet use for social, domestic and pleasure	Deemed to be far beyond the scope of the study, but would appear that the detailed on-going studies of PEW and OxIS provide legitimate impressions of the current trends of Web use (See Chapter 2, Section 2.6)
Investigate the significance of trust, risk and confidence with regards to Web use	<p>Confidence is the construct that facilitates Web interaction.</p> <p>Trust cannot legitimately function online as the needs of a situation characterised by trust are far beyond the scope and capabilities that are available on the Web.</p> <p>Risk can legitimately exist; appears to be one of the key constructs influencing Web use but the degree to which it can influence is reliant upon the dispositional tendencies of the individual involved, and therefore would be shaped by social capital.</p>
Identify the relationship between trust, risk and confidence and how they relate to one another	<p>Relationship between trust and risk differs greatly from that between confidence and risk; the difference hinges on the relevance and prominence of risk to the situation.</p> <p>Risk is not only a vital element to any trust situation, it has to be deemed 'significant enough' to the trusting party, requiring conscious consideration. The perception of risk is something that is heightened due to the lack of protection measures (a factor also inherent to any trust scenario). Trust is about uncertainty.</p> <p>The amount of risk involved in a confidence decision is much smaller in comparison to that which is inherent within a trust decision. The risks can be considered so small, and the possibility of them being encountered so remote, that they are not even consciously thought about. Confidence is a decision based (in part) on predictability and certainty of outcome, adding to this is the possibility of mitigating risk through protection measures. Although trust and confidence are decision-making constructs, trust represents a far different situation in terms of importance, and as a result houses a far greater number of contingencies (see Section 7.5.2 and Table 16).</p>

Table 18: Evaluation of Research Goals

8.3 CRITIQUE OF THE RESEARCH METHODOLOGY

As explained within Chapter 5, Section 5.5.4 the diary-study element underwent two iterations, from being a simple feedback format (checkboxes) as used in the pilot, to the free text format (descriptive) bespoke diary that was became part of the study. The pilot diary-study was rejected as although it provided a great deal of ‘neat’ data, this data provided little to no useful insight into participants Web use.

The follow-up interview questions were based on the Web interactions of the research participants; these were designed around the understanding of the trust and confidence construct (as developed through the literature). The idea was to identify which of the constructs was influential to Web use and Web interactions. Two further elements were included within the interview process; one which investigated into Web use traits of participants (how, when, where, what devices) and the final, more open aspect of focussing on specific activities found within the participants diaries. The interview process was used to i) not only apply context to elements of the diary, ii) to gauge which construct (trust or confidence) facilitated Web interactions, but iii) using this to gain an impression of the user and how they *feel* with using the Web.

Although the diary study and the interview gave insight independently, they provided the most insight when combined. The diary study was designed and implemented to gather data as unobtrusively as possible; this meant that the potential to gain insight into the participants’ attitude toward trust and/or confidence was minimal. However, in spite of this, the diary served as a valuable platform to support the follow-up interview, where the *richer* participant Web use data was obtained.

The limitations and criticisms of this approach was securing willing participants to take part, which is why use of the snowball sampling technique proved to be of incredible value. The level of commitment required from participants, especially when brought into comparison with other more common approaches such as surveys or interviews, was a factor that hindered parts of the research. Several participants had initial reservations regarding the amount of commitment required for the research, and although in many cases these reservations were alleviated during preliminary discussions, the author firmly believes that this element would prove critical if the study was scaled up to include more diarists.

In relation to this point about scaling up respondents, the author feels that the diary study element of this research would still prove to be useful and insightful if it were run for 4, as opposed to 7 days. This is because the diary was used primarily to support the interview, and because the amount of *extra* data that was acquired after the first four days was negligible; daily Web users tended to not necessarily repeat the same exact processes, but share similar patterns across the period. The *how* they used they Web would remain largely unchanged, but the *what for* would vary depending on the type of user they were. If the research is to

look at specific Web uses then a longer duration would prove beneficial, but the use of a free-text diary format would act as a hindrance.

The potential limitations of this approach is that the diary study-interview process is adept at gaining insight into participants Web use, the intensity involved from both the perspective of the participant (in terms of commitment) and the researcher (in terms of analysis) are the elements that limit the potential sample size. A route around this would be to use a more structured approach to recording the data, but the *insight* in this specific instance was gained due to the diary being largely free-text format, and was then linked to a semi-structured interview. Scaling up from this format would require significant resources, which is why the point has already been made that for free text diary studies, participant numbers should be capped (Palen & Salzman, 2002; Grinter & Eldridge 2001; Zimmerman & Wieder 1977). Overall, the belief exists that a larger scale study, one that includes more initial demographic and device data would prove to be incredibly insightful, but the challenge remains of mating up the increase in sample size to a free-text diary-study.

8.4 RESEARCH FINDINGS

Overall, the author considers there to be three key findings to emerge from the research and the study into understanding trust and confidence in Web behaviour. The initial parts of ‘understanding trust and confidence’ were extracted from the literature, and the latter point of researching into Web behaviour emerged from the study itself.

8.4.1 UNDERSTANDING TRUST

The problem of trust as the research shown is that not only is it a commonly misunderstood concept but one that is often taken for granted (Connolly 2007). Research attention was directed toward the core concept of trust, and the related elements of risk and confidence. A working definition and model of the trust process emerged from this (see Figure 76 below)

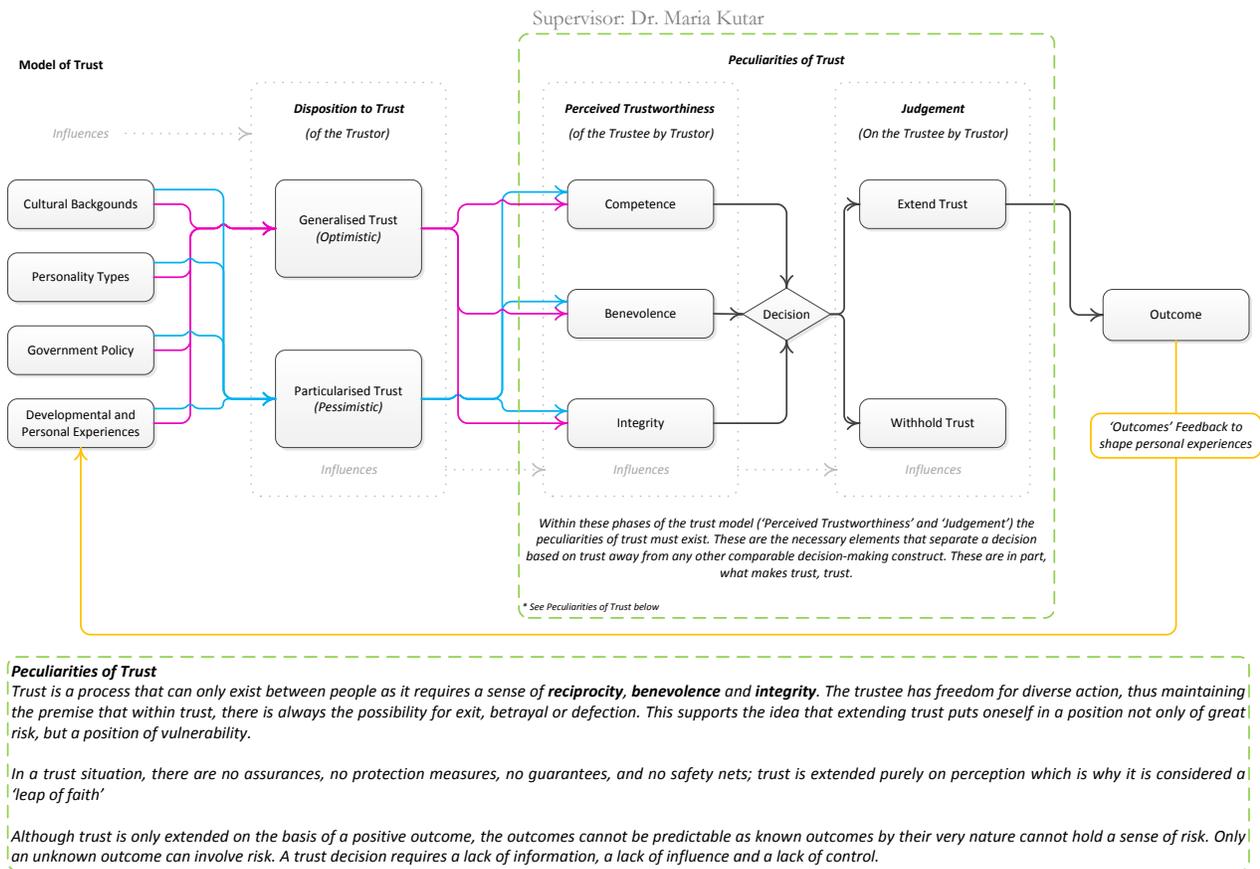


Figure 76: Model of Trust

Trust Definition: *Trust is a judgement based on the perception of another person's benevolence, integrity and competence; it is characterised by risk, a need for vulnerability, uncertainty of outcome, a lack of control, lack of information, lack of influence, and carries with it no measures of protection, guarantees or assurances. Trust is only extended on the basis of a positive expectation, as the damage caused by the abuse of that vulnerability is greater than the benefit being pursued. Once trust is broken it can never be repaired.*

8.4.2 UNDERSTANDING CONFIDENCE

In understanding trust, research attention was also directed toward the construct of confidence, which is shown within the literature to be commonly confused with trust. Trust and confidence are closely related in the sense that they are both decision-making constructs, yet they are also both very different in how, where and what situations they function. Upon having an effective understanding of what each construct represents, the elements that distinguish one from another can also be appreciated (see Table 19 below)

Confidence Definition: *The belief that certain future events will occur as expected and is characterised by specific reason based judgement on experience, evidence, familiarity, measures of protection (adapted from Siegrist et al. 2005).*

Characteristics	Trust	Confidence
What is it about?	Decision-Making Belief Uncertainly	Decision-Making Predictable outcomes Competence
Requirements	Integrity Benevolence Uncertainty Vulnerability Competence Reciprocity	Predictability Competence
Risk	Required Considerable	Not necessary Can be mitigated from
Breakdown / Failure	Internally attributed Regret Once broken, cannot be repaired More damaging than the advantage being pursued	Externally attributed Chance Measure can be taken Unfortunate
Parties	Extended to other people only	Extended to people, systems, objects, governments, organisations, entities
Key attributes	No control No influence No protection No guarantees No assurances Extended on the belief of positive expectation Decision is always consciously considered	Measures of protection Risk can be mitigated from Extended on the belief of positive expectation Decisions can be habitual

Table 19: Trust & Confidence Characteristics

The central outcome in distinguishing between trust and confidence is the disparity that emerged when the working definition and process of trust is applied to the Web context. This shows to some degree where the confusion with trust and the misunderstandings of trust materialise.

When considered from the Web perspective, it becomes apparent that it is *confidence* that facilitates the interaction; this is what has enabled the Web to develop, what enabled the Web to expand and what it is that makes users engage – it isn't trust as much of the literature explains. As the definition above shows (and the model in Figure 76, and Table 19) situations supported by the trust place much greater demands and commitment on the construct than what is legitimately possible on the Web. Put bluntly, trust is a construct that can only exist between people, as there is a requirement for a sense of benevolence, integrity and reciprocity.

8.4.3 WEB BEHAVIOUR

A main outcome of the study shows that Web behaviour is based around an individuals' disposition to trust which is in turn shaped, influenced and built on the four elements at the start of the trust or confidence processes (see Figure 76 above)

- i) Cultural Backgrounds
- ii) Personality Types
- iii) Government Policy
- iv) Developmental and Personal Experiences

It becomes apparent that the model of online trust – the process of *how* to create trust on the Web – is in fact no different than the model of confidence, as it is *confidence* that operates on the Web. Irrespective of whether it is trust or confidence, the four attributes listed above remain consistent. In understanding this, the important thing to remember when attempting to create confidence online (or what is termed as 'trust' in much of the literature) is that these attributes are created offline in the real-world. And as such, the Web behaviour of the individual(s) concerned will effectively mimic their offline dispositional tendencies – their real-world attitude toward risk, their real-world personality, their real-world culture.

Akin to trust and akin to social capital, these four elements combine to carve out a dispositional tendency which when classed as optimistic for example, leads to a more acceptable view of risk and an in doing so, increases the likelihood for that individual to engage. The point being made here is how trust, confidence and social capital work to impact, influence and shape the individuals offline environment, the same tendencies will be brought over to the Web and will function in the same fashion. Therefore, if an individual is considered risk-averse in the real-world, then they will carry the same traits on the Web. And from understanding this, it becomes apparent how 'creating confidence' or 'creating trust' on the Web would be the same as creating it in the real-world – it isn't a straightforward process. In the same manner as social capital, a sense of confidence cannot be created by an individual acting alone, and like social capital the wealthier and more highly educated are likely to receive greater benefit as their attitude toward risk is underpinned with an optimistic disposition (worldview). As a result, it is the wealthier and better educated members of society that engage more and take more risks (Dutton & Blank 2011). Their perception of risk is more pragmatic and practical, and secondly their attitude toward loss – especially in financial terms – is often reduced as the impact of a loss wouldn't necessarily be heightened to such a degree. If there is no engagement, interaction or risks being taken, there is no potential or capacity for benefit in the first place (Green, 2007). The greater the breadth of Web use, the greater the potential benefit those individuals receive; and it is this attitude of risk taking, interacting, engaging that comes from personality – personality which in large part is shaped by culture, upbringing and experiences.

Although the Web is now more accessible to increasingly more members of society, there still exists a divide between users, and the benefit they receive from it. This potential for benefit comes down to *how* users use the Web, not merely a case of *that* they use the Web; it is this *how* which is shaped by confidence – confidence which in turn is shaped by dispositional tendencies, dispositional tendencies which is shaped by personal experiences and culture.

Despite the above, confidence cannot be simply *created* on the Web, as through the study the author has come to find that confidence arises from offline commitments from society, it relies on culture, and we have learned from culture that it is not only an irrational habit, but it takes generations to shape and change, and cannot be achieved by one person merely acting alone (Coleman, 1998; Fukuyama, 1995).

8.5 FUTURE RESEARCH

A practical future step of the research would be to implement a similar study but with key demographic detail included, such as age, education, income, employment status, etc. to uncover what elements influence confidence on the Web. Through the existing work, the author carries a hypothesis that aligns to the premise of social capital and to the outcomes of the OxIS 2011 study, which is to state that confidence on the Web and breadth of use go hand-in-hand and are an *attitude* that is shaped and influenced primarily by education and household income. Access to the Web is not as influential as the attitude that the individual carriers when they use it; an attitude that is based upon cultural backgrounds, personality types, government policy, development and personal experiences

A larger scale study that has been designed to complement what is outlined above could work in a way to not only identify any connections within the hypotheses, but also work to validate build up on the OxIS 2013 ‘cultures of the Internet’ study. A greater amount of demographic detail and appropriately designed interviews / survey carries with it the possibility of defining user types in line with the ‘cultures’ of the existing study (Dutton et al., 2013).

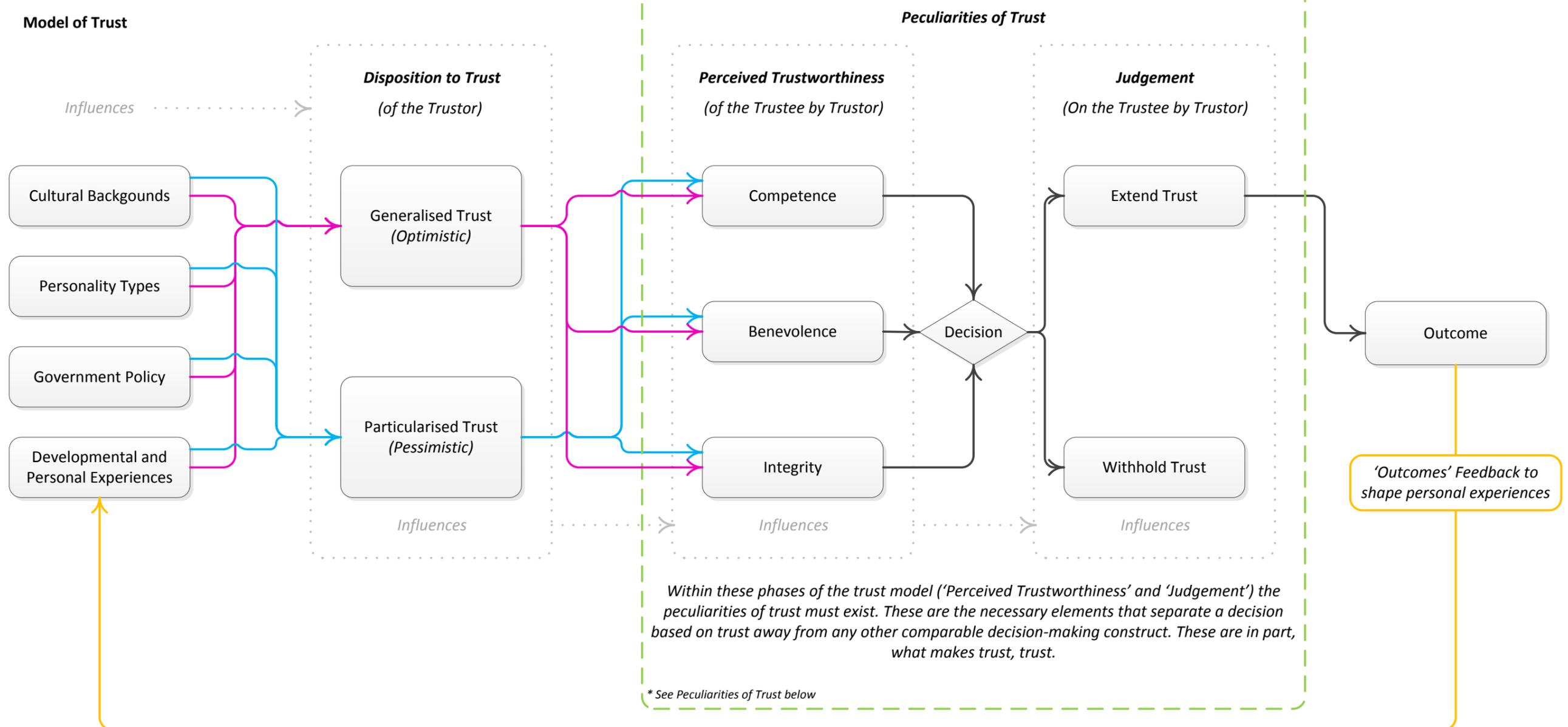
8.6 CONTRIBUTION TO RESEARCH

There are essentially three main contributions to the research i) an understanding, definition and model of the trust process, ii) an understanding, definition and model of the confidence process, and iii) the understanding that confidence supports Web interaction – not trust – and confidence is like social capital, it is developed, influenced and shaped by culture in the real-world (offline).

The research within this thesis is concerned with understanding how trust operates in the Web environment. Research into the core concept of trust – the wider related work on risk, confidence, cooperation, social capital, and the implementation of a diary study-interview focussed on Web behaviour – indicates that the Web is facilitated by the construct of confidence. The additional, and arguably more important contributions are the definitions and process models of trust and confidence (see Page 214 and 215 below).

Trust Definition: *Trust is a judgement based on the perception of another person’s benevolence, integrity and competence; it is characterised by risk, a need for vulnerability, uncertainty of outcome, a lack of control, lack of information, lack of influence, and carries with it no measures of protection, guarantees or assurances. Trust is only extended on the basis of a positive expectation, as the damage caused by the abuse of that vulnerability is greater than*

Figure 77: Model of Trust



Peculiarities of Trust

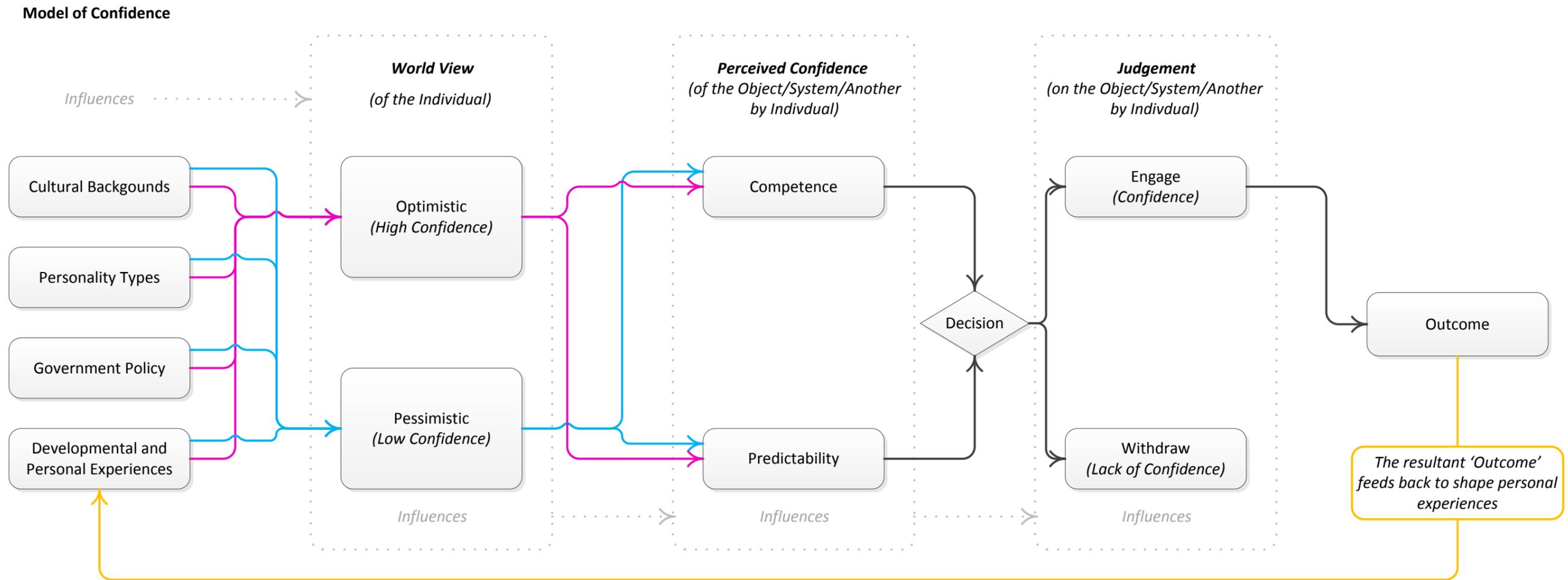
Trust is a process that can only exist between people as it requires a sense of **reciprocity, benevolence and integrity**. The trustee has freedom for diverse action, thus maintaining the premise that within trust, there is always the possibility for exit, betrayal or defection. This supports the idea that extending trust puts oneself in a position not only of great risk, but a position of vulnerability.

In a trust situation, there are no assurances, no protection measures, no guarantees, and no safety nets; trust is extended purely on perception which is why it is considered a 'leap of faith'

Although trust is only extended on the basis of a positive outcome, the outcomes cannot be predictable as known outcomes by their very nature cannot hold a sense of risk. Only an unknown outcome can involve risk. A trust decision requires a lack of information, a lack of influence and a lack of control.

Confidence Definition: *The belief that certain future events will occur as expected and is characterised by specific reason based judgement on experience, evidence, familiarity, measures of protection (adapted from Siegrist et al.*

Figure 78: Model of Confidence



How Confidence Differs From Trust

Like trust decisions, confidence is also granted on a positive expectation, but the element of risk can be reduced and there is no requirement for vulnerability.

A confidence process relies on the perception of competence and the predictability of the outcome. Unlike trust, confidence is a process that can exist between a person and an object, system, or indeed another person; trust can only be extended between people.

Confidence often has inherent protection measures in the form of guarantees, assurances, come backs, and the implementation of sanctions, all of which combined can reduce risk to insignificant levels. As a result, confidence decisions can become automatic, habitual responses that are not consciously considered.

The research shows that a predictor of Web confidence can be indicated by *how* people use the Web, not simply *that* they have access to it; the breadth of use, points of access, and to some extent the frequency of use can combine to demonstrate the type of user they are and how confident they are with the Web. The *how* is shaped by the dispositional tendencies of the individuals, which is in turn developed from and shaped by the first four stages of the model (shown in Page 214 and 215), culture, developmental and personal experiences, personality types, and government policy. These are real-world, offline elements and therefore what they represent in the real world would correlate to what they would represent in the online world of the Web. The online world is not independent of the offline world; it is effectively an extension of it, so the same cultures, personality traits and habits would carry across.

As trust cannot exist on the Web, what the literature considers to be ‘Web trust’ is in actual fact confidence. Taking this into account, developing ‘Web trust’ is referring to creating a ‘sense of confidence’ and it is this element of confidence that facilitates Web use, and furthermore, this ‘sense of confidence’ is developed in the real offline world – it isn’t developed on the Web.

The correlation exists that those with higher levels of education and higher household incomes are the most active Web users (referred to in the OxIS 2011 reports as NGU’s). Whether considered from an online or offline perspective, those with dispositional tendencies of optimism – the sense of positive expectation and being in control of one’s destiny – typically hold a lower perception of risk, and therefore cooperate easier, engage more, interact more and essentially take more risks which ultimately – like social capital – increases their chances of benefitting from such interactions. Akin to social capital in the offline world, the worldview of optimism or pessimism had the same impact on Web interaction – pessimistic users seldom interacted and therefore seldom received benefits, optimistic users were more diverse and open with their actions, more pragmatic in their approaches and therefore it becomes understandable how the Web becomes more important and more beneficial to their lives.

The literature and the study demonstrate that what is considered within the IS literature as being ‘online trust’ or ‘Web trust’ is what is understood within this thesis as confidence; it is not trust. For the purpose of maintaining perspective and moving the focus away from an argument of semantics, the author supports the idea of referring to this ‘model of confidence’ as the ‘model of Web trust’ when it is applied to the Web context. The important aspect of Web trust isn’t the term used, but the underlying model, process and understanding.

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APPENDIX A

DIARY STUDY DOCUMENTS

APPENDIX B

PARTICIPANT DATA SAMPLES
