



**Developing an IT Bidding Maturity Model (ITBMM)
for IT Firms operating in the Gulf Region**

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Table of Contents

Acknowledgements	9
Abstract	10
Chapter 1. Research Introduction	13
1.1. Introduction:	13
1.2. Research Overview:	13
1.3. Research contributions:	14
1.4. Literature Overview:	15
1.4.1. Maturity Models:	19
1.4.2. Organizational Structure and People:	20
1.4.3. Knowledge Management	20
1.4.4. People development management and Training:	21
1.4.5. Bid Management	21
1.5. Research Questions:	23
1.6. Aims and Objectives	23
1.7. Research Method	25
1.7.1. Introduction:	25
1.7.2. Research Strategy	25
1.7.3. Research Problem:	26
1.7.4. Research Criteria	27
1.7.5. Research Design	27
1.7.6. Exploratory work:	31
1.8. Thesis Structure	31
Chapter 2. Literature Review: Project Management & Bidding Area	35

2.1	Introduction:	35
2.2	Overview of Project Management:	35
2.3	Tools and Techniques in Project Management:	36
2.4	Issues in the Project Management:	39
2.5	Existing Systems in the Project Management:	41
2.6	Critical Success and Failure factors in the Project Management:	42
2.7	Bidding Areas:	45
2.8	Implementations of Project Management:	46
2.9	IT and Bidding Process in the Project Management:	49
2.10	Summary:	50
Chapter 3.	Literature Review: Maturity Model	53
3.1	Introduction:	53
3.2	Overview of Maturity Model:	53
Chapter 4.	Literature Review: Model area factors affecting maturity	85
4.1	Introduction:	85
4.2	Factors affecting project management maturity:	85
4.2.1	People:	88
4.2.2	Staffing:	91
4.2.3	Training and Career Development:	93
4.2.4	Competency and Skills:	94
4.2.5	Process:	96
4.2.6	Policy/Procedure:	100
4.2.7	Communication:	100
4.2.8	Tools:	101
4.2.9	Environment/culture:	103

4.2.10	Organization:	105
4.2.11	Management:	108
4.2.12	Structure:	109
Chapter 5.	Research Methodology	112
5.1	Introduction	112
5.2	Steps of study	112
5.3	Research paradigm	113
5.4	Research approach	114
5.5	Research design	116
5.5.1	Historical research design	117
5.5.2	Experimental research design	118
5.5.3	Non-experimental research design	119
5.5.4	Sampling design	120
5.6	Data collection method	121
5.7	Analysis and interpretation of data	121
5.8	Analysis technique used in this study	122
5.9	Strategies for validating findings	122
5.10	Credibility	122
5.11	Transferability	123
5.12	Dependability	123
5.13	Conformability	123
5.14	Ethical considerations	123
5.15	Summary	124
Chapter 6.	Framework Development:	126
6.1	Developing Draft Framework:	126

6.2	Limitation	127
6.3	Proposed Framework:	128
6.3.1	Brief about the Bidding Process:	128
6.3.2	Lead Identification:	129
6.3.3	Readiness Review:	129
6.3.4	Proposal planning:	130
6.3.5	Solution Development:	130
6.3.6	Proposal writing:	130
6.3.7	Proposal Validation:	131
6.3.8	Proposal production:	131
6.3.9	Proposal post submission:	131
6.3.10	Proposed Model Areas and Criteria.....	132
1.	People	134
	Staffing:	134
	Training & Career development:	136
(1)	Process:.....	141
(2)	Environment/Culture:	147
Chapter 7.	Case Studies:	155
7.1	Introduction	155
7.2	Interview Questions:	157
7.3	Case Study (1): Organization A	160
7.3.1	Background	160
7.3.2	Analysis and Discussion	162
7.3.2.1	People	162
7.3.2.1.1	Staffing	162

7.3.2.1.2	Training and Education	164
7.3.2.1.3	Competency and Skills	165
7.3.2.2	Process:	167
7.3.2.2.1	Policy/Procedure	167
7.3.2.2.2	Communication	170
7.3.2.2.3	Tools	173
7.3.2.3	Environment/Culture	174
7.3.2.3.1	Top Management	174
7.3.2.3.2	Structure:	176
7.3.2.3.3	Organization Culture	177
7.3.3	Summary and Finding	178
7.4	Case Study (2): Organization B	181
7.4.1	Background	181
7.4.2	Analysis and Discussion	185
7.4.2.1	People	185
7.4.2.1.1	Staffing	185
7.4.2.1.2	Training and Education	187
7.4.2.1.3	Competency and Skills	190
7.4.2.2	Process:	192
7.4.2.2.1	Policy/Procedure	192
7.4.2.2.2	Communication	196
7.4.2.2.3	Tools	200
7.4.2.3	Environment/Culture	202
7.4.2.3.1	Top Management	202
7.4.2.3.2	Structure:	205

7.4.2.3.3	Organization Culture	207
7.4.3	Summary and Findings	209
7.5	Case Study 3: Organization C	213
7.5.1	Background	213
7.5.2	Analysis and Discussion	217
7.5.2.1	People	217
7.5.2.1.1	Staffing	217
7.5.2.1.2	Training and Education	219
7.5.2.1.3	Competency and Skills	222
7.5.2.2	Process:	224
7.5.2.2.1	Policy/Procedure	224
7.5.2.2.2	Communication	228
7.5.2.2.3	Tools	232
7.5.2.3	Environment/Culture	234
7.5.2.3.1	Top Management	234
7.5.2.3.2	Structure:	237
7.5.2.3.3	OrganizationCulture	239
7.5.3	Summary and Findings	241
7.6	Cross Case Studies Analysis	245
	Chapter 8: Conclusion and recommendations	249
	References:	256

Table of Figures

Figure 1.2 Systematic Process for Bid Management	22
Figure 1.3 Research Design	30
Figure 3.1 Project Management Process Maturity Model	54
Figure 3.3 Kerzner PMMM	57
Figure 3.4 Contract Management Maturity Model	58
Figure 3.5 Organizational Project management maturity model	61
Figure 3.6 Capability Maturity Model	64
Figure 3.7 Organizational change maturity model	71
Figure 3.8 PRINCE2 Maturity Model	72
Figure 3.9 IT-CMF.....	74
Figure 3.10 Project Management maturity Model	82
Figure 4.1 Business process management maturity model	86
Figure 4.2 People Capability Maturity Model	90
Figure 4.3 Hammer PEMM	98
Figure 6.1 Draft Framework.....	127
Figure 6.3 Must Win Process, Carl Dickson.....	132

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Abstract

A key focus of presented research is to develop a maturity assessment framework, in order to enhance the bidding process of the Information Technology (IT) firms. Area of investigation has been firms operating within the Gulf Region. Key research emphasis has been to address prevailing knowledge gap in understanding key factors that influence IT bidding capability of firms operating within Gulf region. The developed maturity framework is based on the selected areas and, that criterion that have addressed direct effect on the bidding process. The main purpose of developing this framework is to provide a clear assessment of the existing bidding process from the different perspectives, to address the existing good practices and to suggest the areas and criteria that need enhancement by providing a clear roadmap and action plan for a continuous improvement.

The first stage of the research explored the literature review areas. Within state of the art review, key research in areas of bidding strategies, maturity models and areas affecting bidding progress, where the review will enrich the Ph.D. research by giving more details about the research gap and problem.

The second stage of the research explores, discusses and puts forward potential solution to overcome the research gap and problem by developing a framework. The framework covers the different areas and criteria as presented in the literature review section. The areas and criteria have been linked with the deficient theory and literature behind to highlight the real practice and to validate the proposed framework.

The main areas and criteria covered by the proposed framework are people, process and the environment or culture. The framework further classifies 'people' into staffing, training & career development and competencies & skills (experience). Besides that, 'process' has been classified into policy or procedure, communication, and tools. Environment or culture has been divided into management, structure, and culture. The link to the real practice was done on the third stage of the Ph.D. research by conducting three case studies and testing them with the proposed framework. Besides that, data was collected for the study and the researcher has analyzed it to test the result

of the developed framework. The case studies are followed by recommendations and conclusion for future enhancement of the framework along with the suggestions for future development.

Chapter (1)

RESEARCH

INTRODUCTION

Chapter 1. Research Introduction

1.1. Introduction:

This research has focused on an investigation of various factors that influence IT bidding maturity and development of an IT Bidding Maturity Model (ITBMM) for IT Firms operating in the Gulf Region. This chapter highlights the research background, the contribution to the knowledge area, research structure, aim and objective of this research and research questions. The aim of this research is to develop a framework that helps IT Firms to enhance their bidding process by focusing on critical areas and criteria affecting the bidding process. To help IT firms in assessing their maturity, key goal of the research is to develop a framework to measure the effectiveness of the bidding process and provide continuous enhancement methodology to increase the bidding process agility and maturity. Key measures have been highlighted to assess the IT Firm's processes related to the bidding process.

1.2. Research Overview:

This research has focused on the IT System Integrator Firms in the Gulf region where the bidding Unit plays a vital role along with the different factors that affect this role of the unit and the bidding process. The researcher identifies the main areas and criteria/factors that affect IT bidding process by going back to literature and reviewing what has been done in this area of knowledge and identifies the gap. Besides that, the researcher proposed a framework which can target this gap and helps to improve the IT Firms' performance by defining mechanisms. This has enhanced the Maturity Level of the bidding process by fulfilling the gap between the current and next level of maturity of the organization and defines the continuous improvement of mechanisms.

The researcher has carried out an investigation in this study to understand the bidding process of the software projects for which the game theory has been used. In this respect, the behavior of the bidders was analyzed to obtain an improved bidding system in terms of software engineering. As per the previous researches, it has been evaluated that the game theory is the suitable application to investigate the bidding process of the software projects. At the same time, the researcher has introduced the importance of project management in the following study

since it is considered as the best strategy for the business development in the medium sized firms. The firms have identified a significant framework to understand the present situation of the business. At the same time, the researcher has pointed the pros and cons of implementing project management in the organizations. Further discussions have been made in the succeeding chapter of the literature review.

The research process followed for developing IT Bidding Maturity Model included a review of the literature from different knowledge areas including project management, review of different maturity models, areas and criteria that have an impact on the bidding process. This is followed by the identification of the skeleton of the model/framework while reviewing those areas and criteria/factors in details in order to design the framework and validate it by conducting a case study. The model is considered as the basis to evaluate IT organization 's maturity level in the bidding process. It has helped in illustrating a series of steps to assistant organization in improving the bidding process. This includes the presentation of 5-levels of ITBIMM (Bidding Maturity Model) (the initial conceptual design). The key contribution of this research work is to develop ITBMM which emphasized on assisting the IT organizations in terms of bid or tender related process. It has also facilitated in the improvement of the process and the organizational maturity. As per the researches made by the previous scholars, it has been identified that the model provides the IT organizations with necessary actions and steps to improve the process and achieve a higher maturity level. If, the Maturity Model assists the organizations to improve the processes to have better achievement, then, the better quality results and risks reduction help to achieve a successful delivery of projects. Thus, the main focus of this study is on the development of the maturity framework to understand the bidding process of IT projects. At the same time, the researcher has analyzed the importance of project management, while, keeping a note of its positive impacts and flaws. The further focus has been given in the areas of quality management, excellence and Maturity Models, bid management and other relevant areas in order to develop an effective framework for the IT Bidding Process.

1.3. Research contributions:

This research intends to develop a maturity framework so that the IT bidding process can be improved in context to the IT system integrator (SI) firms. For this, the researcher has considered

the different IT firms located in the Gulf region which provides the IT services for their clients. The framework has been formed to understand the maturity level of the bidding process along with the process of improvement.

Hence, it can be said that the following research contributes to forming a new framework that enables measurement of the performance of IT bidding in the System Integrator (SI) Organizations. There are various suggestive ways to adopt Maturity Models theory into the IT bidding area. The researcher has evaluated the bestowal of the system integrator organizations to meet the business targets by enhancing the IT bidding process. The study has highlighted the consultants with a tool which enables them to assess the effectiveness of IT bidding unit in System Integrator organizations. The research work has been inferred with a set of recommendations to enhance the IT bidding maturity areas within the System Integrator Organization to meet the Organizational Business Objectives.

1.4. Literature Overview:

Literature review indicates an extensive published research in the area of Project Management, Maturity Models on different areas and domains, and Bidding/Purchasing processes in general. However, there is a paucity of the published literature in the area of bidding process maturity within the IT firms of Gulf region. Addressing this knowledge gap is the key motive and driver for this research and the key outcome of this research is to address this knowledge gap by proposing a maturity framework and model to support the IT Firms in the bidding process.

To survive in a competitive business, IT System Integrator (SI) must develop winning proposals and have appropriate management structures. Developing and preparing a proposal is time-consuming and costly (El-Mashaleh, 2010). In the absence of adequate support processes, it is observed that most of the bidders are merely wasting time and money (Kerzner & Thamhain, 1986). The submission of low-quality proposals can damage the IT System Integrator reputation in the market (Gido & Clements, 1999), which can potentially lead to losing of market share and business closure in the long run.

Kerzner (2010) highlighted the similarities between the bid management and project management and identified that the field is very competitive. Companies often have a designated role of a bid

manager, with the responsibilities of controlling costs, schedule and quality on the tender stages. The project-driven companies must find ways to learn the “best practices” in a competitive world and apply these lessons to their processes, systems, and tools. This method of continuous improvement through measuring and comparing is referred as benchmarking (Kerzner, 2010).

Bid/no-bid decision is usually made on the basis of a set of criteria (El-Mashaleh, 2010). Several factors are considered by the contracting organizations in exercising the bid/no-bid decision across the countries, and Figure 1.1 presents a list of the top 15 bidding factors that were identified by performing three investigations, as mentioned in the study of (El-Mashaleh, 2010). Bidding factors could include both negative and positive factors (Wanous *et al.* 2000). The Negative bidding factors are those, which dissatisfy the bidder from bidding, whereas positive bidding factors are those, which encourage the bidder to bid (Wanous *et al.* 2000). Nevertheless, a successful bidding is critical to the success of any IT Organization. IT bidding activities could result in new or changed products, services, environments, processes, and organizations. Successful bidding increases sales reduce costs, improves quality and customer satisfaction, enhances the work environment, and results in many other benefits.

As the IT Organizations have recognised the significance of successful bidding to their market competitiveness, bidding management has become a focal point of improvement in IT Companies. More and more IT Organizations have embraced the bidding management as a key strategy to remain competitive in today’s contracting organisations competitive business environment (Egemen & Mohamed, 2007). Proper emphasise on the people, training programs or the organizational change programs to enhance the bidding management practices are the common factors of the strategic plans. These lead to the organizational success as well.

The bid process includes two main parts, the first part is to respond to the public tender/bid and the second part is to implement the project if the bid has been awarded to the company. This research focuses on the first part, where the IT Organization has an internal bidding process to bid for the public tender/bid. To evaluate the initial part, the “bidding process” has been divided into small stages to understand the key elements and the parties involved in order to define the maturity evaluation criteria and levels.

At the beginning of the research work, the researcher has reviewed the literature on project management, maturity models, developing maturity model, organizational change, people management and bid management. Such a multi-disciplinary approach is considered critical to gain a broader perspective of the problem. Gradually, the researcher has combined the different ideas on the basis of the knowledge areas to form the chosen framework.

Factor	Chua and Li (2000)	Wanous et al. (2000)	Egemen and Mohamed (2007)
1	Need for continuity in employment of key personnel and workforce	Fulfilling the to-tender conditions imposed by the client	Project size (total bid value)
2	Current workload of projects	Financial capability of the client	Terms of payment (monthly, quarterly, etc.)
3	Relationship with owner	Relations with and reputation of the client	Completeness of fulfilling to-tender conditions imposed by the client
4	Expertise in management and coordination	Project size	The current workload of projects, relative to the capacity of the firm
5	Financial ability	Availability of time for tendering	The current financial capability of the client
6	Availability of other projects	Availability of capital required	Financial status of the company (working cash requirement of project)
7	Similar experience	Site clearance of obstructions	Availability (number and size) of other projects within the market
8	Required rate of return on investment	Public objection	Experience and familiarity of the firm with this specific type of work
9	Completeness of drawing and specification	Availability of materials required	Amount of work the client carries out regularly
10	Consultants' interpretation of the specification	Current work load	Project's possible contribution to increase the contractor firm's classification
11	Company's ability in required construction technique	Experience in similar projects	The history of client's payments in past projects (considering delays, shortages)
12	Availability of qualified staff	Availability of equipment required	Possessing enough number of qualified management staff
13	Competence of estimators	Method of construction (manually, mechanically)	Technological difficulty of the project being beyond the capability of the firm
14	Time allowed for bid preparation	Availability of skilled labor	The current financial situation of the firm (in terms of need for work)
15	Size of project	Original project duration	Possessing enough number of required plant and equipment

Figure 1.1: The top 15 bidding factors (El-Mashaleh, 2010)

The seminal work of Crosby in 1979 presented the five incremental maturity levels to use the quality concept within an organization and In 1989 Deming introduced the concept of Continuous Process Improvement practices for a better quality management (Reed *et al.* 2000) . There were also various other research projects conducted to improve the quality of the software development process by the Software Engineering Institute (SEI). SEI has a great experience in Maturity Model field for the last twenty years. As a result of this research, the Capability Maturity Model has been developed by (SEI) to assist an IT organization in terms of the continuous software development processes. Kwak & Ibbs (2002) proposed a 5-level Tender Process Maturity Model to assess and improve an organization's Project Management maturity level. The model follows the sequential and systematic steps in improving the organizational processes of project management. Also, a maturity model has been adopted by the Engineering and Construction industry by using a capability maturity model. A review by Project Management Institute (PMI) identified over thirty

PM maturity models in the market (Cooke-Davies, 2002). Organizational Project Management Maturity Model (OPM3) has been launched by the Project Management Institute (PMI) as well as. These models generally focus on PMBOK® Guide knowledge areas and the best practices that were formally documented in the project management bodies of knowledge. The maturity models assess the current organizational practices against the standard criteria from the bodies of knowledge. The assessment of the maturity framework involves five developmental levels:

- Level 1: Initial (ad hoc)
- Level 2: Repeatable or Structured (abbreviated, planned)
- Level 3: Defined (organized, institutionalized)
- Level 4: Managed (integrated)
- Level 5: Optimized (adaptive, sustained)

In above background, Kwak & Ibbs (2002) have highlighted the project management maturity to assess an organization's current levels of Project Management practices. The PM Maturity has a big demand among the large companies where they have invested the significant amounts in developing their PM System which was still "not fully aligned" or "not Matured" to support the project management Eve (2007). Kwak & Ibbs (2002) highlighted that the corporate organizations are in favor of PM tools and practices to a fast paced changing business environment. Eve (2007) highlighted the following key elements to achieve the PM Maturity Methodology and Tools:

- Competence and Career
- Mentoring, coaching, and intervention
- Training
- Management Development

The term "Project Management Maturity" is generally used to measure an organization's ability to deliver the projects successfully (Andersen & Jessen, 2003). The Project Management Maturity Model motivates the organizations and people to accomplish a higher and a more matured level by a systematic approach. The Project Management Maturity Model addresses the critical dimensions of people, their communications, and processes. Eve (2007) highlighted the need to

focus on “the behaviors” of the entire workforce, leading to a great performance. The development and focus of the new strategy shall be from the Top Management to the front-end employees. A key mistake was made in this situation since the functional managers were left out of the discussion. Due to lack of involvement of the key managers, the ability to achieve the organization-wide buy-in project management policies and processes was hampered.

1.4.1. Maturity Models:

As per the definition derived from the dictionary, the concept of maturity refers to the process of developing something completely or the level at which something has developed fully. This denotes the process of maturity and improvement (Oxford English Dictionary, 2009). The notion of maturity is a commonly used term in the fields of literature and academic levels (Mullaly, 2006). A maturity model can be considered as a specific model for a specific area to measure the different degrees of maturity in the organization. It is used to perform the assessment for the competence object in order to fulfill the required criteria which are defined for a certain competence area (Ahlemann, 2009). During the designing process of the maturity model, the requirements of objectivity, reliability, and validity, along with the consistency and efficiency should be taken into consideration.

Concept of process maturity has been discussed widely in the literature e.g. discussion on the concepts of Process Maturity (Paulk, 1993), Organizational Maturity (Paulk, 1993), Process Capability, Project Maturity (Crawford, 2002) and Maturity of Organizational Capabilities (Ulrich & Smallwood, 2004) by adopting and using different frameworks like CMM to improve the software development process (CMM-SW) (Dooley, Subra, & Anderson, 2001). On the other hand, both ISO/IEC 15504 and CMMI use the capability levels to characterize the process of capability. The Project Management Institute (PMI) launched the Organizational Project Management Maturity Model (OPM3) (Grant and Pennypacker, 2006).

Maturity models represent the theories linked with the literature which further focused on the capabilities of the organizations in each level of logical improvement (Ven & Poole, 1995; Gottschalk, 2009; Kazanjian & Drazin, 1989). The Stage-of-growth models or stage models are the areas related to the Maturity model (Prananto *et al.*, 2003). The main objective of the maturity models is to define the maturity levels and paths along with the characteristics of each level and the logical links between them.

King and Kraemer (1984) highlighted that most of the maturity models focus on the levels to reach the predefined criteria instead of emphasizing on the factors and elements that actually made the changes. According to Gammelgård *et al.* (2007), it is important to consider that the capability model has to be reliable, valid, and cost-effective during the design. During the formation of the framework components, De Bruin *et al.* (2005) proposed a structure consisting of multiple levels. For each detailed level, Ahlemann (2009) defined that the framework should include the maturity levels, areas, criteria, and methods for data collection and analysis. On the other hand, Fraser *et al.* (2002) defined a set of components to be included in such levels which would describe each level, areas (dimensions), criteria's (activity) for each area, and a description of each criteria's in each level.

1.4.2. Organizational Structure and People:

Organizational Structure signifies the way in which people are working together internally forming a team and maintaining the organizational culture. This is also influenced by the teamwork and the people's discipline, where it can be affected internally and externally (suppliers and customers) (Maier, Moultrie & Clarkson, 2012). For Szakonyi (1994), maturity seems to make an improvement by investing in the staffs' knowledge about skills, and responsibilities. Besides that, effective communication and collaboration between the technical team and the internal team in the organization have also made an impact on the level of the maturity. Focusing on the people and their skills, responsibilities, and training also has a direct leverage on the maturity improvement Fraser *et al.* (2002) and excellence.

1.4.3. Knowledge Management

“Knowledge is Power” (Barclay, 2000), and knowledge is difficult to quantify and to manage as an organizational asset (Shepard, 2000). Knowledge management (KM) is one of the strategies that increase the organizational competitiveness (Bell & Jackson, 2001). The organization can achieve that through planning and by enhancing the individual competencies. The organizational experts from the knowledge management team can look into the literature related to the concerned subject so that it might make an impact on the organizational competitive advantages. Besides that, the further focus can be given to the human resource management which plays an important role

in creating, applying, sharing and preserving the organizational knowledge which is beneficial for an organization (Monavvarian & Khamda, 2010).

Organizational knowledge is generated and improved by a continuous communication and collaboration between the staffs (internal and external) as discussed by the scholars like Bradley, Paul & Seeman, 2005). Organizational knowledge is affected by the experience and expertise of each individual employee along with the organizational structures to support the knowledge with the organization capabilities (Smedlund, 2008).

1.4.4. People development management and Training:

The key to the organizational success is to join training and knowledge management processes and to build a learning and development team (Crocetti, 2001) where the HRM has an important role in creating a learning organization (Hong & Kuo, 1999). Career development in the organizations is a part of the human resource (HR) management system (Von Glinow *et al.*, 1983). Career development is important for both the individuals and organizations (Hall, 2002). Organizations need to keep the individuals motivated and knowledgeable (Pfeffer, 1998). Training enhances the individual's knowledge along with the overall organization knowledge (Zaharias *et al.*, 2001). Therefore, an individual training plan should be implemented to improve their knowledge and capabilities. Henceforth, it is important for the organizations to create a training plan for the individuals (Monavvarian & Khamda, 2010). Human resources are the biggest assets in the organization, and they should implement a training plan to keep the staffs motivated and competent.

1.4.5. Bid Management

Successful bid management is dependent on the organizational capabilities and has a direct and big impact on the organizational success (Davies, and Brady, 2000). Bids are submitted based on the customer requirements and specifications as requested and within their budget. If those meet the proposal/bid, then it will become a project. This is the reason why bid management is important and has a direct impact on the organizational success.

The concept of bid management in this context is similar to the project management disciplines, where both are focusing on the project delivery time, along with the cost and quality as per the requirements. The Bid management has many areas such as technical, legal, financial, and project (Philbin, 2008). To ensure a successful bid, the bid has to be delivered as per the time, cost and quality criteria. For that, Lewis (2007) recommended using different tools to manage the bid delivery and the technical resource working on it like using the Gantt charts (Kumar, 2002) and other CRM Applications, like Salesforce®. A Systematic system/tool can be used for bid management, which is designed by the IT to support Organizational business and focuses specifically on the bid management process (Stader, 1997). Bid management has been covered by the literature from a knowledge management perspective (Apostolou & Mentzas, 2003). It further recommended that the appropriate knowledge management systems and technology tools, such as collaborative tools, file sharing systems, and computation tools can support and help in building the Bid Management Database. The bid management has been developed to maintain a systematic process, as illustrated in Fig. 1.1.

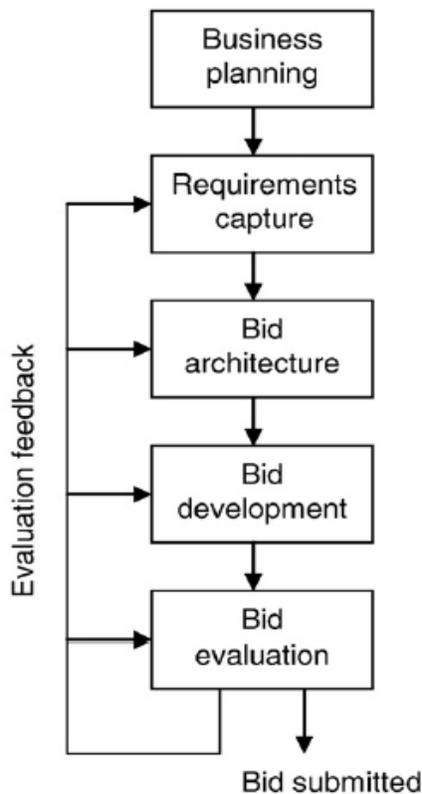


Figure 1.1 Systematic Process for Bid Management

This process has been designed based on the literature review bid management and systems engineering (Philbin, 2008). The proposed Bid management process is a systematic lifecycle, which starts with business planning, requirements' capture, bid architecture, bid development and bid evaluation stages (Philbin, 2008).

1.5. Research Questions:

The researcher observed the bidding process of the IT firms in the Gulf region along with the bidding unit team who performs the bidding operations. Based on personal work experience, supported by related literature review, the key focus of this research is an in-depth investigation and evaluation of IT Bidding process and exploration of various enhancement opportunities. Further, there is a need of developing a framework to assist key decision makers involved in IT bidding, to allow exploration of key areas and criteria affecting the bidding process. In light of the above mentioned discussion and identification of knowledge gaps based on literature review, the following key research questions are identified.

1. What are the key stages of the bidding process, with a specific focus on understanding processes of IT firms operating within Gulf Region?
2. What are the areas of the bidding process?
3. What are the criteria for the bidding process, with a focus on IT firms operating within Gulf Region?
4. How to assess IT firm's maturity at bidding process based on selected criteria?
5. How can the maturity framework for IT Firms enhance the bidding process?

1.6. Aims and Objectives

This PhD research aims to develop a Maturity Framework to measure and improve the performance of the IT bidding process in the IT System Integrator (SI) Firms by defining a problem and research gap. Besides that, a key objective was to obtain deep insights into understanding challenges faced by IT firms within Gulf region by conducting case studies, analyzing the data, developing a maturity assessment Framework to provide a standardised approach to compare various maturity assessment approaches, validation of the solution and by recommending

guidelines for implementing the framework. The objective of the framework is to help the bidding unit within the IT Firms to improve their maturity of the bidding processes as a “Continues Improvement” initiative and provide a standardised approach to compare maturity of various approaches. To develop a better understanding of the subject matter, a wide range of literature from different disciplines including project management, bidding process, maturity model, and factors affecting the bidding process were reviewed. Global and regional review of literature was conducted, to identify key knowledge gap, which was fulfilled through development of the framework.

This will lead an IT Firm to meet the business objectives by enhancing the success rate of winning new projects and the bidding process. In order to highlight the research purpose explicitly, the researcher has focused on the IT firms of Gulf Region that have applied the concept of bidding process to prepare and submit the tender for acceptance as a conforming opportunity. This is to enhance the work further for a price while converting the estimation of the bid. State of the art review as documented in detail in Chapter 1 and 2 indicate that there have been previous studies covering various aspects of bidding process of IT firms, however, these studies lacked a clear focus on understanding the needs and requirements of Gulf region. Research aims is achieved through the following research objectives:

1. To undertake an extensive literature, to develop the various stages of IT Firm Biding Maturity frameworks.
2. To Identify the bidding’s key success factors and stages
3. To evaluate the process and outcomes of the bidding process in IT Firms
4. To recommend an IT bidding maturity framework for improving the effectiveness and efficiency of the IT bidding process
5. To assess and evaluate the recommended bidding maturity framework
6. To produce the implementation guidelines for the application of the Maturity framework in the IT Companies.

This research is focused on the big IT Firms in the Gulf region which provide IT Services (implementing IT Projects) for the clients. The idea is to design a framework with different levels to assess an IT organization’s bidding process and to identify the level of maturity and its improvement.

1.7. Research Method

1.7.1. Introduction:

Research method can be defined as the set of methods or tools that are used in a research work to gather relevant data related to the study so that the research work can be completed proficiently. It can further be defined as a systematic and organized effort to investigate a specific problem which needs a solution. It consists of a series of steps designed and followed, with the goal of finding answers to the issues of concern. It is the entire process by which people attempt to solve problems (Sekaran, 1984). The methodology followed by the researcher must consist of the defined logical rules and procedures in order to accept the research findings.

The scientific research, according to Sekaran (1984) is a sense of purpose, testability, reliability, accuracy, objectivity, and generalizability. Scientific research is dependent on the theory, literature, and empirical research. The two main approaches chosen for the research work are inductive and deductive. The inductive approach is where the theory comes after research, whereas, in the deductive approach, the theory comes before the research. The inductive approach is based on the starting from the particular place to the general. Hence, the following research has been conducted following an inductive approach. On the other hand, in the deductive approach, the researcher starts with a general view and moves to the particular.

1.7.2. Research Strategy

In this research, the primary research demonstrates the Project Management as a framework for an effective and successful project implementation. The Project Management is one of the methods considered in the natural sciences and this paper is to study the reality of it in the IT Companies working on the Bid/Tender Stage. Therefore, the philosophy of this paper is the natural science epistemology “interpretivism”. This strategy considers the views of other writers/papers that had significant views about this Project Management and maturity models areas in which it is applied on the IT Companies at bid/tender processes stage. This strategy considers the application of this tool in the social world and how the organizations implemented it to develop the maturity framework. During the implementation of the strategy, two views are considered like social sciences and natural sciences where the emphasis has been given on the human behaviors and how

they are implementing this framework. The main aim was to see how this framework has been implemented in the organizations. For that purpose, a comprehensive literature review has been done. Pugh (1983) specified this type of research strategy as the process of data collection on the basis of which the generalized propositions can be tested.

This research is investigating the effective implementation of the framework to build a Maturity Model for Project Management Framework. At the same time, the paper looks into the theory of this framework. Many journals have been written in this area as well as. After that, the paper focused on the development of the Maturity Model and its significance in making an effective implementation at the tender or bidding stage of the IT organization.

The research design looks for different project management maturity models and case studies, which contains an analysis of the models based on the theory and the designed framework. Besides that, the research design develops the maturity model for the IT organizations at the tender stage which is implemented in the IT companies to test the models and enhance the maturity model. This has been done by applying different case studies in different organizations as shown in figure 1.

The case study methodology helps in understanding the steps to build the project management maturity model framework across the IT firms of the Gulf Region. As Stake (1995) has observed that a case study research looks for the exact nature of the case in question.

1.7.3. Research Problem:

The IT Bid Maturity Model for the IT firms has been developed by looking into those areas which have been able to design the framework and test it on the organizations. The model has been considered as the basis to evaluate IT organization's maturity level in the bidding process. It has illustrated a series of steps to help an organization to improve the bidding process. This paper has made a detailed description of the 5-level ITBMM (the initial Design). The anticipation of developing ITBMM following its contribution in the domain of the maturity models has led to the formation of new practices. At the same time, this has helped the IT organizations in some of their specific processes like the bidder or tender process and has improved the organizational maturity as well. The model has provided the IT organization with necessary actions and steps in order to improve the process to achieve a higher maturity level.

The Maturity Model assists the organizations to improve the processes and to have better achievement, better quality results and reduce the risks associated with the projects which have a direct contribution to develop a successful project. In context to that, developments have been made on quality, excellence and maturity models, bid management and other areas that are important to form the IT bidding process maturity framework.

1.7.4. Research Criteria

The critical question is not whether the findings can be generalized to a wider scope, but it is related with how the researcher has generated the theory out of the findings (Mitchell, 1983; Yin, 1984), also indicated that the case study could be a collective method of the several qualitative methods. This research is critical in helping the readers understand the research. Through this research three concepts have been considered during the research design that are, Reliability, Replication, and Validity. Validity refers the credibility or believability of the research work based on the data collected for the research work. It is used to see whether the instruments used in the research work are measurable or not. But, reliability refers to the consistency of the research findings to understand whether the data has been collected for the second time and is not same as before. Replication denotes the repetitions of the research study, along with different subjects and situation to analyze whether the findings of the main study are applicable to other circumstances and participants. For instance, there are previous studies related to the impact of brand equity on the purchase intention of the customers of UK. In this research study, the researcher has applied three of these techniques to ensure that the data collected was valid, the findings were reliable, and the research topic was chosen following replication.

1.7.5. Research Design

Research design defines the strategies followed in the research work to combine the different aspects of the study following a coherent and logical flow. This helps in addressing the research problems properly. Besides that, this is used as a roadmap to collect the relevant data as per the study and analyze the same (Sekaran, 1984). There are different types of research designs that are

used for various research purposes. Those types can be generally classified into three categories: a) Historical design; b) Experimental design and c) Non-experimental design

The choice of data collection methods depends on many factors, such as the resources available to the researcher, the time span of the research, the accuracy required in the study, the expertise of the researcher, and the cost associated with each method. The non- experimental research design can be classified into: Quantitative and Qualitative

- **Quantitative research:**

Quantitative research is used mainly to test a theory by testing the individual hypothesis. The primary data collection method that is used in this type of research is the survey method followed by a set of questionnaires or structured interviews.

- **Qualitative research**

Qualitative research differs from quantitative research by its way of generating information. It concentrates on a particular situation and helps in gathering an in-depth knowledge based on the chosen topic. Many methods are associated with the qualitative research such as participant's observation and unstructured interviews.

- **Case Study**

Case study method is a good option for demonstrating the specific phenomenon as a case. Yin (1984) defined the case study as “An empirical inquiry that investigates a contemporary phenomenon within its real-life context, when the boundaries between the phenomenon and the context are not clearly evident, and in which multiple sources of evidence are used.”

Case Study typically uses multiple data collection techniques such as documents, archived records, interviews, and observation. Case study research method is appropriate for new topic areas and researches and to test a theory (Bryman, 1995; Yin, 1989).

The qualitative case study approach is a valuable method of data collection considering the possible limitations of other methods where it allows having face-to-face interviews with the observation which lead to a proper understanding of the questions and situation.

In this research, experimental research design has been used to develop the framework for the bidding process of IT firms. In order to achieve the aims and objectives of this research; a qualitative approach is adopted with the help of a Case study along with triangulation techniques. Triangulation techniques have been adopted by using the multiple research methods of observation, historical data and observations along with the unstructured interviews. The triangulation has been beneficial in taking the accurate measurement of the variables by using different indicators and by canceling the limitation of one method in order to validate the findings.

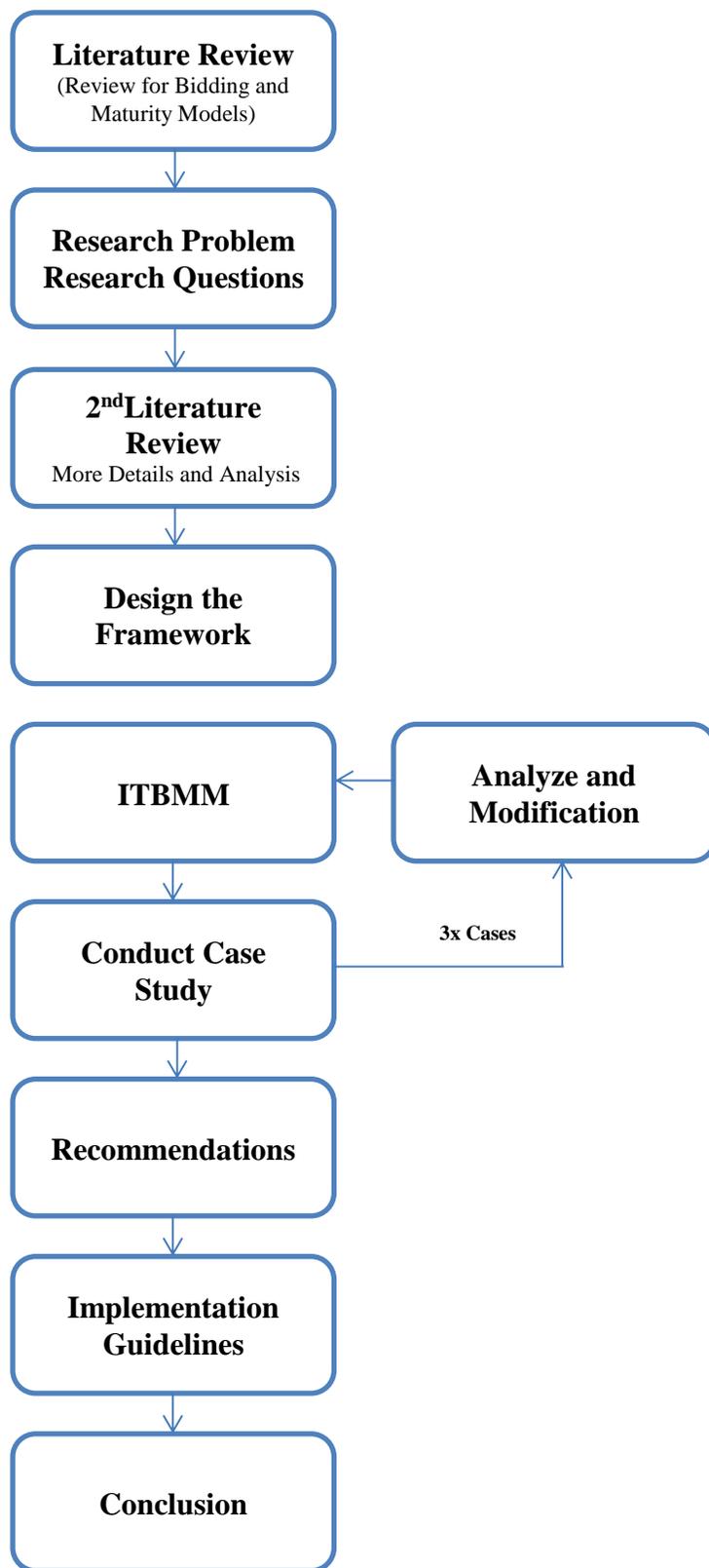


Figure 1.3 Research Design

Figure 1.3 describes the design of the research methodology followed in this study in order to collect the exact data from the market and analyze it to meet the research objectives. For developing an IT bidding maturity framework, a literature review has been conducted from different areas such as Bidding Process, Maturity Models, and Organization Change and Culture. Case Studies have been used to evaluate and validate the framework proposed. Figure 1.3 demonstrated the Research Design that has been followed along with the different methods in order to form the framework required in the bidding process.

1.7.6. Exploratory work:

The exploratory work took place after the literature review search stage and developed the framework focusing on the main areas and criteria's for each. The literature review presented many factors that affect the performance of IT Bidding. Those factors include staff, organizational structure, planning, suppliers Support, staff's skills and expertise, organizational culture and the relationships between the Consultancy Group, Bid Team, and quality of work processes etc.

The exploratory study was conducted by interviewing IT staff and Managers within SI Organizations. The main objective was to explore the factors that affect the success of IT Bidding Process Internally.

1.8. Thesis Structure

The thesis contains six chapters. Each chapter starts with an introduction that outlines the aim and the scope of the chapter.

Chapter 1. Research Introduction

The first chapter provides an overview of the maturity framework along with its need in the bidding process of IT firms in Gulf Region. This is followed by the research questions while highlighting the thesis problems and research gap. Then, the researcher has identified the aim and objectives of the study followed by the importance of this Ph.D. research and the research scope.

Chapter 2. Literature Review: Project Management & bidding Area

This chapter in detail discusses the overview of project management and the links with the bidding area. Next, to that, this chapter focuses on the tools and techniques utilized for the project management. Subsequent section concentrates on the issues in the project management. Part of the section concentrates on the existing systems utilized in the project management. Next part of the chapter discusses the critical success factors involved in implementing the project management and also discusses the critical failure factors involved in implementing project management. In addition to these, this chapter discusses the bidding areas in the project management. Further, this chapter has focused on the implementations applied in the project management. Apart from these, this chapter concentrates on the information technology and bidding process with specific reference to project management and finally concludes with the chapter summary.

Chapter 3. Literature Review: Maturity Model

This chapter gives an overview of the Maturity Model development in the literature. After that, there is a detail discussion on each of the Maturity Models and area of focus and specialization. This chapter has provided a comprehensive literature review for the Ph.D. research to get an idea about how those models have been designed based on the concerned areas and criteria of assessments, following an evaluation of the methodology of the Model.

Chapter 4. Literature Review: Model area factors affecting maturity

Nowadays organizations can accomplish success in business by maturing their performance of project management. This chapter identifies the factors affecting the maturity of the organization to manage projects. Further, the study has pointed out the factors which enhance the firms to realize the advantages and accomplish the satisfaction of the stakeholder defining two leading success factor groups. Besides that, the researcher has researched various studies based on the factors affecting maturity and the different models of project management maturity.

Chapter 5. Research Methodology

The fifth chapter explains the research methodology, the research design and the technique followed to validate the model and collect data. Moreover, it describes the research approach, research design, data collection methods and Data Analysis.

Chapter 6. Proposed Framework:

The following chapter presented the draft framework which was developed based on an initial conclusion from the literature review. All the areas and criteria were identified in the framework. After that, the draft framework has been tested on the basis of three cases to validate the framework and ensure that the areas and criteria are related to the framework by providing the significant relationships and results. The draft framework also explores the relationship between the areas and criteria and how those are linked to each other and interrelated.

Chapter 7. Case Studies

To test and validate the draft framework, case studies need to be selected and presented, which were presented in this section of the study. The purpose of the case studies for this Ph.D. research is to validate and test the framework and after that ,it helps in adjusting the framework based on the analysis and feedback received from the case studies. Three IT Firms have been identified based on specific criteria to test the framework on the Bidding process. According to Kwak & Ibbs (2002), measuring the organizational maturity is subjective than objective where it needs to focus on the organizational operation as analysis.

Chapter 8: Conclusion and recommendations

The last chapter would include the inferences from the study. The researcher would discuss the findings in this section and compare those with the case studies. Depending on that, the researcher would discuss the recommendations following which the IT firms can develop a successful and effective maturity framework to enhance the bidding process.

Chapter (2)

LITERATURE REVIEW:

PROJECT MANAGEMENT

&

BIDDING AREA

Chapter 2. Literature Review: Project Management & Bidding Area

2.1 Introduction:

This chapter in detail discusses the overview of IT project management. In addition to that, this chapter focuses on the tools and techniques utilized for the project management. Subsequent section concentrates on the issues in the project management. A portion of the literature review specified the existing systems used in the project management along with the successful factors required in developing it. The chapter has also focused on the bidding areas in the project management in context to the various implementations made to develop the bidding framework successfully. Apart from these, this chapter concentrates on the information technology and bidding process with specific reference to project management and finally concludes with the chapter summary.

2.2 Overview of Project Management:

Projects are utilized in the business process reorganization, information technology, research and development and software development (Besner & Hobbs, 2009 and White & Fortune, 2001). According to Besner and Hobbs (2009) and Wysocki, Beck and Crane (2008), project management is referred as the multifaceted process that considers various projects with respect to the different activities like control, monitoring and planning. It is used as a discipline of organizing, planning, managing and securing resources that assists an organization in order to reach its business outcomes.

According to the project management institute (2008), the notion of project management is to apply skills, knowledge, techniques and tools while developing a project to meet its goals. As per the reports of Wilkinson (2001) and project management institute (2008), it has been analyzed that the significance of project management is crucial in ensuring a substantial activity success. The person handling the project has to concentrate on some concerned areas like control, planning and implementation. Wysocki, Beck and Crane (2000) pointed out that project is a sequence of complex, unique and connected activities involving one purpose or goal that has to be finished within the budget and a specific time based on the specification.

Meredith and Mantel (2006) pointed out that the project management helps an organization to reduce the service and the product development time while enlarging the global market competitors. It also exploits the limited resources. The project managers are required to utilize or adapt tools that assist in overcoming different issues like inconsistent project teams, uncontrollable budget and time restrictions. It also assists in overcoming the lack of clarity to prioritize projects; unpredictable company resources; uncontrollable time and limitations in budget. Besides that, it focuses on the lack of clarity in collaboration among the team members of the project and delays in the project decision making (Milosevic, 2003 and Meredith & Mantel, 2006).

2.3 Tools and Techniques in Project Management:

Wilkinson (2001) stated that project planning is seen as the heart of managing the Project properly and systematically to meet the purpose of performing the project. One cannot execute the project activities, if there is no proper plan. Without a proper plan, it is not possible to recognize whether the activities are performing in a correct way, or if the available data or resources are enough to complete the project within the time schedule. At the same time, the reports of the project management institute (2008) stated that the plan acts as a roadmap which the team members in the projects follow to meet the project mission. Kliem *et al* (1997) stated that the project management techniques and tools help project managers and their team members to carry out the project in various knowledge areas. There are also some famous time-management techniques and tools which encompass critical path analysis, project network diagrams and Gantt charts. The knowledge areas includes scope management, integration management, time management, cost management, human resource management, risk communication, procurement management and communication management

Knowledge Area	Tools & Techniques
Integration management	Project selection methods, project management methodologies, stakeholder analyses, project charters, project management plans, project management software, change requests, change control boards, project review meetings, lessons-learned reports
Scope management	Scope statements, work breakdown structures, mind maps, statements of work, requirements analyses, scope management plans, scope verification techniques, and scope change controls
Cost Management	Net present value, return on investment, payback analyses, earned value management, project portfolio management, cost estimates, cost management plans, cost baselines
Time management	Gantt charts, project network diagrams, critical-path analyses, crashing, fast tracking, schedule performance measurements
Human resource management	Motivation techniques, empathic listening, responsibility assignment matrices, project organizational charts, resource histograms, team building exercises
Quality management	Quality metrics, checklists, quality control charts, Pareto diagrams, fishbone diagrams, maturity models, statistical methods
Risk management	Risk management plans, risk registers, probability/impact matrices, risk rankings
Communication management	Communications management plans, kickoff meetings, conflict management, communications media selection, status and progress reports, virtual communications, templates, project Web sites
Procurement management	Make-or-buy analyses, contracts, requests for proposals or quotes, source selections, supplier evaluation matrices

Figure 2.1 Project Management Tools and Techniques in Knowledge Areas

Source: Project Management, 1997, Fig 1

Figure 5 illustrates the project management tools and techniques with respect to the identified knowledge areas. The tools and techniques included in the integration management are the methods for project selection, methodologies for project management, project charters, stakeholder analyses, and plans for project management, software for project management, boards for change control, change requests, lesson-learned reports and project review meetings (Price, 1997). The above mentioned tools and techniques develop scopes in the project following the structures of scope statements, work breakdown, work statements, mind maps, plans for scope management, requirement analysis, scope control and scope verification techniques (Kliem *et al*, 1997). The various tools and techniques related to cost management are return on investment (ROI), net present value, earned value management, payback analyses, cost estimates, management for project portfolio, plans for cost management and cost baselines. Time management's tools and techniques are project network diagrams, critical-path analyses, Gantt charts, fast tracking, crashing and measurements for schedule performance (Gorog & Smith, 1999 and Lock, 1996).

Tools and techniques utilized in the human resource management are empathic listening, motivation techniques, project organizational charts, matrices for responsibility assignment, team building exercises and resource histograms (Lock, 1996). Apart from these, tools and techniques associated with the quality management are pare to diagrams, checklists, quality metrics, quality control charts, statistical methods and fishbone diagrams (Gorog & Smith, 1999). Risk management utilizes different plans for risk management, focuses on probability matrices, risk registers and risk rankings identifying the essential tools and techniques. Tools and techniques utilized in the knowledge area is known as communication management which includes the plans for communication management, templates, conflict management, kickoff meetings, selection of communication media, virtual communications, status and progress reports and the project web sites. Procurement management's tools and techniques are contracts, make-or-buy analysis, and source selections, requests for quotes or proposals and supplier evaluation matrices (Lock, 1996 and Project management, 1997).

According to Lock (1996), the tools and principles utilized in the project management in context to the project breakdown are sub-tasks and tasks to determine the interdependencies between the tasks; estimate the total duration of the project and budget; allocate human, smoothing and material resources and monitor more efficiently and effectively progress of the project. Ideas of project management are equally applicable to relatively small and large project. At the same time, the utilized formal tools are more suitable for the large projects (Project management, 1997).

2.4 Issues in the Project Management:

Pells (2003) and Bargaoanu (2006) stated that the project has to be preplanned to define its objectives, budgets, scope and other significant elements that are essential to complete the project. During its implementation, a series of issues emerge from time to time that has to be addressed effectively and quickly. It was stated that the failure of the project would bring negative influence on the outcome of the project. According to Kerzer (2005) the possible risks and issues have to be examined in the project before the planning and research phase and their solutions have to be functioned in an advance. This is to ensure that if problems occur during the process of research work, then, it can be solved and the project can run smoothly (Hubbard, 2000 and Kerzer, 2005). In addition to this, Saeed, Linhart and Ticha (2001) pointed out that many other unexpected issues would occur if the planning is not done prior to the research on the basis of the project. Such issues have to be determined and documented. The experienced and skilled team members have to be delegated to find solutions for the identified issues (Havrland *et al*, 2001). Further, the project must be divided into smaller modules to monitor or control these kinds of issues effectively and independently without experiencing any negative impact (Bingham, Kay & Murray, 1997). Further it was added by the Meredith, Samuel and Mantel (1995) that one of the key problems which requires concentration is that the team members emphasized in the project has to be well trained and skilful for meeting issues and performing tasks and duties assigned in a project (Dey, 2000 and Fricke & Shenhar, 2000). Team members' training has to be optimum and must be included at a time just prior to the implementation of the project. It was specified by Bingham, Kay and Murray (1997), that another issue which could influence a project is the lack of interest and motivation among the

team members towards activities and tasks of the project. If the team members are not skilful and competent, they lack their interest in the activities and tasks or become low in morale. It was suggested that it is the duty of supervisors and project manager to look after these people and motivate them towards the project (Bingham, Kay & Murray, 1997 and Fricke & Shenhar, 2000). It was also recommended that rewards could be promised for projects and they could be lauded in order to successfully complete their assigned tasks (Fricke & Shenhar, 2000 and Havrland *et al*, 2001).

In addition to that, Fricke and Shenhar (2000) stated that lack of proper communication is one of the main obstacles which affect the project. Apart from these, team members would not be adequately trained for using a system for project management. They would not be able to explain the issues and challenges they face within time when executing their activities. Lack of clarity and lack of proper budgeting in defining the goals and documenting goals along with the responsibilities and objectives could be main issue. Most of the team managers and project managers do not give adequate information to adequate people associated with the lack of culture or infrastructure for good communication (Yetton *et al*, 2000 and Fricke & Shenhar, 2000). Kerzer (2005) and Saeed, Linhart and Ticha (2001) referred that most of the times, project plan involves some risks associated with it. For majority of the projects, team members are assigned on the basis of their availability.

Most of the project teams complained that they do not have reliable, accurate or upgraded information regarding their resources and so on (Yetton *et al*, 2000). Majority of project teams are geographically dispersed. It was noted that projects would be completed by collaborative efforts. Project teams would involve various team members. Most of the times, project team involves various organizations and cultures. Team members could not be employees and also includes sub-contractors, vendors, clients and third parties. In such cases, project would be affected by misunderstanding or communication (Havrland *et al*, 2001 and Yetton *et al*, 2000). Thus it was concluded that the project teams would involve various team members. Most of the times, project team involves various organizations and cultures. It was noted that another issue that could influence a project is the lack of interest and motivation among the team members towards activities and tasks of the project.

2.5 Existing Systems in the Project Management:

Aadamsoo (2010) discussed about the web based project management. The objective of the study was to make a full and complete working WBPM (web based project management) system for the firm. The needs of the firms has been collected and taken into consideration; in WBPM system, there has been utilized a deployed TRAC system for enhancing firm's everyday use and for increasing productivity, performance and efficiency. Jung, Kim and Joo (2010) examined the project management IS (information systems) for construction managers. It was observed that the project management IS for construction management companies have flexibility because of different characteristics of construction management. TRAC was used to retrieve and present resources of information on the web that is accessible to all clients all over the globe. As a good system for project management it has a possibility to download, upload and delete files and uniformly provides modification for developers to be in stable contact with consumer expectations and needs for the project. Tool for user management in WBPM system is a good appliance for focusing on the project as well as for providing rights to unique users by the administrator of the system in the firm. Such things all make a good and complete communication system within the firm, all material and data would be accessible from one place for facilitating the answer of a project as well as interact and communicate with a client. At last, the whole system was tested for ensuring that all functions correctly prioritize the implementing all features. It was also noted that WBPM is an enhanced TRAC system and finished as one complete system for functioning which corresponds to the firms requires and assists in providing a good quality project for web projects for the clients. Thus, it was concluded that the as a good system for project management it has a possibility to download, upload and delete files and uniformly provides modification for developers to be in stable contact with consumer expectations and needs for the project. Raymond and Bergeron (2008) examined about the project management information systems. This study also examined their effect on project success and project managers. More specifically, one man was to determine the major determinants of project management IS and identify the extent to which such systems helps project managers such as efficiency, productivity, and efficiency. Another aim was to obtain better recognizing such system to the project's success. Successful models of project management IS must continue to be validated and challenged, the outcomes of such

study indicate that the use of project management IS are in fact beneficial to project managers. Enhancements in efficiency and effectiveness in managerial tasks were noticed here in case of scheduling, project planning, control, and monitoring. Enhancements in productivity were noticed that timelier decision-making. Benefits acquired from PMIS use are not restricted to individual performance and also encompass performance of the project. Such systems make a direct impact on the success of the projects since they help in enhancing the budget control and achieving the project deadlines. At the same time, this helps in satisfying the technical specification as well. Thus, it was concluded that project management IS make an essential contribution to the success of the project and must continue to be the project management object.

Karim (2011) examined the factors related to project management IS. This study examined their effect on PMDM (project management decision making performance). This study also assessed the major functions of a project management IS' incorporation into an organization and how it influences the process of PMDM. Constructed project management IS theoretical framework is more appropriate for measuring the effect on PMDM. It was formed on the basis on choosing high appropriate factors for reviewing the main PMIS models. Thus, it was concluded that the outcome indicated that the significant contribution of project management (IS) is to do with better project planning, monitoring, scheduling and controlling which would result in high efficient and effective PMDM in each phase of project life cycle.

2.6 Critical Success and Failure factors in the Project Management:

Ofori (2013) pointed out the practices of project management and critical success factor from the perspective of an emerging nation. Project management is a legitimate and valid approach to the management and has consistently become a significant choice tool for realizing the objectives across the economic sectors and industries. It includes organizing, planning and managing resources for successfully reaching specific objectives and goals of the project through finishing the specific tasks. From the findings of the study it was noted that the main issue in the project management when reaching the goals and objectives of the process was in adopting the allocated resources and adhering to traditional project constraints of quality, scope, time and cost. The aim of the research was to evaluate the quality of practices related to

the project management by identifying the factors which facilitate the success of the project like clarity of the project goals and mission; effective communication and top management support. It was also observed that due to successfully lack of effective communication and lack of support and finance, the project resulted to be unsuccessful. Thus, it was clear from that analysis that the main issue noted in the project management when reaching the goals and objectives of the process was in adopting the allocated resources and adhering to traditional project constraints of quality, scope, time and cost (Ofori, 2013).

Baccarini (1999) stated that the success of the project success was based on the elements of the projects and therefore results in an efficient utilization of result of the project. At the same time, most of the times, projects would outcome in constant modifications in the scope, poor planning, not following the deadline and the budget and lack of control and monitoring. Khan and Moe (2008) mentioned that in the conceptualizing phase, the success factors are clear in terms of perceiving about the project environment; effectiveness of consultation with respect to stakeholders and the competency of the project team; in the planning phase, the critical success factors are aligning with the development and top priorities; along with the proper support of research and; effectiveness of consulting with the stakeholders.. Critical success factors in the implementation phase consist of the computability of project management regulations; consistency and consistency of support with respect to stakeholders. Critical success factors in the closing phase are the suitable activities of the project closure. Further, it was supported by Fortune and White (2006) that the factors that influence the success of the project are the realistic and clear objectives; along with the significance of projects receiving support from top team or senior management and developing an efficient and effective plan.

Yeo (2002), Andersen et al (2002), Frese and Sauter (2003) and Khang and Moe (2008) stated that critical success factors in the project management are clear objectives of project management, adequate project control, adequate communication or information, top management support, authority of the project (Yeo, 2002 and Frese and Sauter, 2003), adequate control of the project, adequate planning or controlling (Andersen et al, 2002 and Khang and Moe, 2008), project common or mission goals, monitoring the performance and feedback and so on.

It was pointed out by Clancy (1995) that factors that affect the success of project management are project focus that is a lack of focus on the budget, time and quality, lack of planning and

lack of clear approvals and sign-offs by sponsors. Frese and Sauter (2003) added that most of the project fails due to improper plan and evaluate correctly or fail to deploy the tasks based on a plan or in some case failure causes by the human factor (Phillips, 2006 and Frese and Sauter (2003)). Aaron and James (2000) and Frese and Sauter (2003) pointed out that the planning and estimation factors deal with the starting cost and schedule estimated would not be revised when more and more data are obtained from the progress of the project. The plans were implement in an improper manner or the employees are not guided properly for which this may lead to failure of the project. Implementation factor is caused by the change of project scope, not correct and proper use of project methodology, most of the modifications in the testing and requirements or inspections were poorly done. Project managers are not well-trained for acquiring the needed management skills. In addition to that, some managers cannot able to apply and forward the theory of project management into reality or practice. Thus it was concluded that most of the project fails due to improper plan and evaluate correctly or fail to deploy the tasks based on a plan or in some case failure causes by human factor.

Toader *et al* (2010) examined the main reasons that lead to failure or success of a project. There are numerous factors which lead to the failure of success of the project. It was noted that the scope of the project has to be stated clearly and there must be entailed the general project mission and engagement of satisfying such scope by the team members such as support of the manager; a competent team members and project manager; efficient and sufficient allocation of resources; feedback capacities; existence of some mechanisms for controlling a sufficient communication between team members of the project; receptive clients; identification and resolution of issues and consulting activities with customers, the issues. An accurate project management is continuous enhancement process. It has been noted that there can be mistakes in the project work, but, it is the duty of the employees to learn from those mistakes through a continuous learning process. In addition to that, it was stated that project success could be gauged by the understanding of its objective which would be a quality issue, if the parameters regarding the deadlines and budget were accepted or not. Once completed the project cease to exist, thus the performance in the project does not involve a permanent characteristic.

Alexandrova and Ivanova (2008) conducted a research to examine the critical success factors of project management. A proper perceiving of the concepts and the problems related to failure and success of the project is indispensable for them. It was found out that significant factor the

success of project is the characteristics and skills of project is critical for successful aspect of finishing any project. It was also stated that administrative and technical skills of the project managers and their competence and commitment becomes the crucial component during life cycle of the project. The other significant factors identified are compliance with the procedures and rules, competence of project team. It was also identified that the quality of services given by the subcontractors was pointed out as a core factor. There are also factors that favor the success of the project are systematic control over executing the project, effective communication between the project stakeholders, adequate and competence support from a project consultant, precision in archiving and documenting of project information and so on. Thus it was concluded that the significant factors for the success of project are the characteristics and skills of project that are essential for completing the project successfully (Alexandrova & Ivanova, 2008).

Hyvari (2006) carried out an investigation to examine the critical success factors particularly in the project management. It encompassed top management support, project mission, technical tasks, personnel, client consultation, monitoring and feedback, client acceptance, trouble shooting and communication. In addition to that Cooke-Davies (2001, 2002) mentioned that the real success factor is the adequacy of firm-wide education regarding the risk management concepts; adequacy with which a visible registering risk is maintained; maturity of the processes of an organization to assign risk ownership (Cooke-Davies, 2001); adequacy of upgrading the plan for risk management; adequacy of documenting the organizational roles and responsibilities on the project and so on (Cooke-Davies, 2002)

2.7 Bidding Areas:

This section provides the general view about the various bidding areas. Ahadzi and Bowles (2004) examined the public-private partnerships and contract negotiations. Projects procured through PPP procurement forms is development globally as governments try to include private sector methods and capitals of working in the provision of large range of infrastructure services. One such issue is clear in the procurement form, the delays linked with the cost overruns at the stage of bidding are served for the client of the public sector and private sector bidder. Further, it was also noted that the linked cost overruns would be because of expanded

retention of consultant advisors by private and public sector parties. Thus it was concluded that the major problems are seen in the procurement form, the delays linked with the cost overruns at the stage of bidding are served for the client of the public sector and private sector bidder. According to D&P report (2001) the term public-private partnerships (PPP) would be explained in unique contexts from nation to nation, it is significant a collaboration form between the private and public sectors. Financial Times (2002) have stated that the whole PPP procurement process would be divided into four major stages such as planning and feasibility phase, construction phase, bidding and negotiation phase and the operation phase and sometimes the renegotiation or transfer phase.

Couzens *et al* (1996) pointed out that complex nature of strategic decisions taken in the bidding. Such decisions are based on two fundamental strategic functions, the decision for bidding and mark-up or adjudication decisions. Other than the complexity and numerous factors included in those strategic decisions and they would be largely on the basis on the intuitive heuristic techniques. In addition to that contractors mostly depends on gut-feeling and judgments for value for making decisions which influence the long term and short term performance of the organization. The necessity for the more structured approaches for making both strategic bidding decisions was determined. From the findings of the study, it was clear that information engineering principles, especially in the earlier stage related to the planning of information strategy, could be implemented particularly to the fundamental scenario with the specific reference to construction companies. Thus it was concluded that the contractors mostly depends on gut-feeling and judgments for value for making decisions which influence the long term and short term performance of the organization.

2.8 Implementations of Project Management:

Bonghez, Radu and Grigoriu (2012) carried out a research to implement project management as a strategy for business development in medium sized firms. Under the pressure of crisis seen in the economy, organizations were seeking for competitive advantage. To design and validate a model in order to assess the maturity of project management of medium sized firms, this study given a comprehensive framework to analyze the present business situation of such firms. When adopting such model to medium-sized firms, for identifying certain correlations that reveal the significance of project management to make the growth and development

happen. It was noted that economic conditions could be less or more favorable. It was also observed that, an intelligent organization could change a hostile situation into a choice. It was noted immediate determination of such chances and exploiting the prompt situations, calls for reliable, predictable and repeatable processes of management for ensuring a high and fast quality implementation. At the same time, deadlock the organizations mostly face is created by the aspect that, rather than their ability for adapting strategies and defining ambitious plans for development, their implementation process and execution are cumbersome and slow. This is where the project management power could be seen that could be implemented at the organizational level, could produce the expected competitive advantage. Thus it was concluded that immediate determination chances and exploiting the prompt situations, call for reliable, predictable and repeatable processes of management for ensuring a high and fast quality implementation.

According to Cooke-Davis and Arzymanow (2003) and Mensah (2005) deploying project management in the organizations assists to generate a strategic chain for value that provides firms an edge on their competitors especially in markets and high-risk sectors. Glaser (2005) and Fitzgerald and Hartnett (2005) pointed out that when deploying project management it would assist in delivering projects within budget and on time mostly finds whether a firm would obtain the next work or whether its new goods get succeed in the market (Fitzgerald & Hartnett, 2005 and Cooke-Davis & Arzymanow, 2003).

Olategu (2011) examined the practice of project management with respect to Nigerian public sector. Implementing project management techniques and tools with respect to public institutions has become a significant problem in most of the emerging nations, due to its successful facilities and applications with specific reference to private organizations and its proven flexibility and effectiveness to attain project objectives and goals. Because of its nature as the countries' mega city and commercial capital, Lagos is seeing unprecedented capital projects in all developments facet that need better utilization and application of effective and efficient management techniques and tools. By analyzing the application of project management techniques and tools in public institutions in which Lagos act as eye openers to the governmental institutions and other decision taker in order to plan better regarding effort taken towards effective applications of project management techniques and tools. If properly adopting the tools and techniques of project management that would outcome in concrete

advantages in all facets related to project scheduling, planning and controlling the time, cost and quality (Pinto, 2007).

Gantt charts, work breakdown structure and cost-benefit analysis are some of implementing project management techniques and tools due to their understanding and simple nature, at the same time, there is lack of profound knowledge of such techniques and tools would be a still obstacle that faces during implementation (Idoro et al, 2009 and Muller & Turner, 2007). In case of perceived benefits, when deploying project management tools would assist in better communication, project tracing, better quality, better utilization of resource among others (Lewis, 2007 and Patel, 2008).

At the same time, drawbacks seen in implementing project management tools such as lack of expertise in project management, form of high cost and complicated in real world modeling. For tackling the issues, it was recommended that adequate training must be provided to the employee in aspect of project management, professionals in project management must be involved and offices of project management has to be expanded across the government institutions. It was also recommended that the project management techniques and tools have to be applied in traditional government institutions or sector also where resistance to change would be too high. At the same time, the drastic applications have to be avoided in order to prevent from the disruptive change like loss of embarrassment of job management, power struggles and so on (Abbasi & Al-Mharmah, 2000). Thus it was concluded that project management techniques and tools have to be applied in traditional government institutions or sector also where resistance to change would be too high (Olateju, 2011)

Javed *et al* (2012) examined the project variables in performance of planning, controlling and implementation processes of the project. It gives an organization with power tools that enhance its ability for planning, implementing and controlling its activities. The major aim of the research is to determine such factors and project variables that were opined that as contributed to the improvement of the project performance in the processes of project monitoring, planning and implementation. Such factors would become the independent variables seen in the process of model building. A development model for the development project has been incorporating which shows how developed project would incorporate value to the existing inputs to utilize the internal resources effectively and efficiently for providing a more value-added result. It is significant to point out that such model would be support for predicting any other project

performance. Thus it was concluded that development model for the development project has been incorporate which shows how developed project would incorporate value to the existing inputs to utilize the internal resources effectively and efficiently for providing a more value-added result (Javed *et al*, 2012).

Thus it was summarized that if properly adopting the tools and techniques of project management that would outcome in concrete advantages in all facets related to project scheduling, planning and controlling the time, cost and quality. During its implementation, a series of issues emerge from time to time that has to be addressed effectively and quickly. The project variable gives an organization with power tools that enhance its ability for planning, implementing and controlling its activities. It was observed that the drawbacks are seen in implementing project management tools such as lack of expertise in project management, a form of high cost and complicated in real world modeling. It was also noted that the project has to be studied and planned in prior for defining its objectives, budget, scope and other significant elements that are important for a project, prior implementing the project actually starts. It was stated that failure would outcome in the project that would negatively influence and outcome in project failure.

2.9 IT and Bidding Process in the Project Management:

Buisman and Wohlin (2003) carried out an investigation to examine the bidding for software projects. This study utilized the game theory. The intention of the research was to analyze the behavior of the bidders for obtaining a better recognizing of the bidding as a significant activity seen in the software engineering. From the findings of the research it was noted that game theory would be applied for investigating the bidding especially for the software projects. It was observed that when a bidder takes any risk, it is very much complicated for this bidder to come out when at least single bidder does not involve in any kind of risks. It was also noticed that best strategy is to bid close to accurate or correct bid. At the same time, in the alternative words, it could be stated that it is neither advantageous to underbid, because in some cases it would be easier to recover nor to overbid, because it indicates that the projects would never be won. Thus it was concluded that the game theory would be applied for investigating the bidding especially for the software projects and also when a bidder takes any risk, it is very much

complicated for this bidder to come out when at least single bidder does not involve in any kind of risks.

Jorgensen and Carelius (2010) studied about the real-life bidding process in various firms. The process of bidding was separated into two phases such as bidding phase and pre-study phase. In the pre-study phase 17 out of the 35 bidding firms given rough indicators for the non-binding Price on the basis of the incomplete or brief description of user needs; in the bidding phase, firms gave bids on the basis on a full need specification that inferred fully about the software system. The major findings of the research is that the 17 firms involved in the pres-study phase bids were on average about 70 per cent higher than other firms bids. This study proposed a preliminary theory that has ability for explaining such difference. Such theory was on the basis on the precautionary bidding effect identified in auctioning studies. Two significant implications identified in the preliminary theory were as follows. Software clients would reach better uncertainty or better relationships that are better prices, when the need uncertainty understood by the bidders is low. It was observed that software clients must not demand earlier price indications on the basis of uncertain and limited information when the last bids could be on the basis of more reliable and complete information. Thus it was concluded that preliminary theory that has the ability for explaining such difference and theory was on the basis of the precautionary bidding effect identified in auctioning studies (Jorgensen & Carelius, 2010). Hoang et al (2007) examined about the critical success factors in merger and acquisition projects. There are three key functioned involved in the process of merger and acquisition are for the bidder that is the target; potential targets or bidders, finding the bidder's and target's stand-alone values and benefits from synergy and engage in the strategic activities. It was clear from the analysis that process of merger and acquisition are for the bidder that is the target; potential targets or bidders.

2.10 Summary:

From the above evidence it was clear that the project management helps an organization reduce service and product development time to market, enlarge global market competitors, exploit limited resources. It was observed that the project management techniques and tools help project managers and their team members to carry out project in various knowledge areas. It

was clear from the above analysis that the knowledge areas included are scope management, integration management, time management, cost management, human resource management, risk communication, procurement management and communication management

It was clear from the above analysis that the project managers requires to utilize or adapt tools that assists in overcoming different issues like inconsistent project teams, uncontrollable budget and time restrictions; lack of clarity to prioritize projects; unpredictable of companies resources; uncontrollable time and limitations in budget. There are also some famous time-management techniques and tools encompass critical path analysis, project network diagrams and Gantt charts. It was observed that deploying project management in the organizations assists to generate a strategic chain for value that provides firms an edge on their competitors especially in markets and high-risk sectors. It was also stated that administrative and technical skills of the project managers and their competence and commitment becomes the crucial component during life cycle of the project.

It was observed that the software clients would reach better uncertainty or better relationships that are better prices, when the need uncertainty understood by the bidders is low. In addition to these, it was noted that software clients must not demand earlier price indications on the basis on uncertain and limited information when the last bids could be on the basis on more reliable and complete information. It was found out that significant factor the success of the project is the characteristics and skills of the project are critical for a successful aspect of finishing any project. The other significant factors identified are compliance with the procedures and rules, the competence of project team. It was also identified that the quality of services given by the subcontractors pointed out as core factors.

Chapter (3)

LITERATURE REVIEW:

MATURITY MODELS

Chapter 3. Literature Review: Maturity Model

3.1 Introduction:

This chapter gives over view about the Maturity Model development in the literature. After that the detail discusses about each Maturity Models and area of focus and specialization. This chapter will provide comprehensive literature review for the PhD research to get an idea how those models have been designed, areas and criteria of assessments, and evaluation methodology of the Model.

3.2 Overview of Maturity Model:

According to the study of Dooley, Subra and Andersen (2001) SEI (Software Engineering Institute) CMM (capability maturity model) has familiarized the process of maturity concept. Software firms utilize the capability maturity model to assess their present plan and capabilities for future developments. The aim of this study is to generalize the maturity concept beyond the domain of software engineering and decide the maturity influence on the performance of the project in the development of new product. In this study, the author refers the maturity construct as the extent to which a process is referred, measured, handled and improved continuously. The author has engaged survey methodology to express the construct and a sample of thirty-nine programs of new product development is utilized to verify the proposition that developed the maturity which leads to better results of the project as estimated by project timeliness and cost. The author also verified numerous factors of environment as moderators of this rapport. The outcomes ensure a positive rapport between project and maturity success. It can be understood from the study that the relationship between project performance and maturity is developed in organizations to meet the schedule, cost and other objectives of firms. Kwak and Ibbs (2002) proposed a study on project management's process maturity model. This study presents the project management PM (process maturity) model that positions and determines a firm's relative level of project management with other firms. The below figure shows the project management process maturity model:

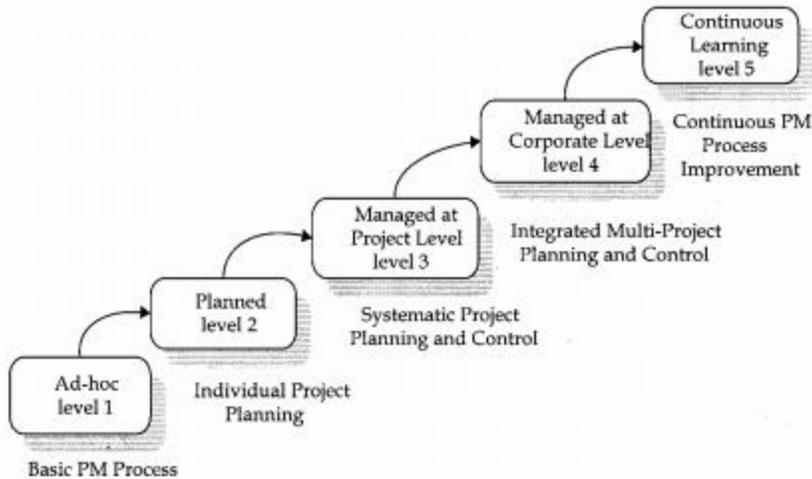


Figure 2.1 Project Management Process Maturity Model

Source: Kwak and Ibbs, 2002

The comprehensive model follows a systematic process to set up current project management level of a firm. Every level of maturity comprises of leading features, processes and factors of project management. This model develops from functionally driven practices of organization to project driven firm that incorporates continuous learning of project. The process maturity model offers a disciplined and elderly method to accomplish greater project management maturity levels. Thus it can be understood that project management process maturity model offers a way for measuring and identifying varied project management levels by combining 9 project management areas of knowledge with 5 processes of the project under a quantified scheme.

Anderssen and Jessen (2003) proposed a study on project maturity in organizations. This study presents project maturity research in firms. The purpose is to evolve an understanding of what the project maturity is and to examine the project maturity level in firms nowadays. Project management evolves through a ladder of maturity where the steps of ladder are suggested to be program management, project management and portfolio management. The maturity itself is estimated along 3 dimensions. They are attitudes, actions and knowledge. The varied maturity dimensions are further categorized into sub topics which must offer a better understanding of project maturity of firms. A questionnaire is evolved based on a preliminary project maturity understanding and a beginning survey has been organized. The survey

provides certain assistance to the construction of ladder and reveals that knowledge and attitudes are powerful than the actions carried out. Further work on surveys and questionnaires are suggested. It can be understood from the study that knowledge, action and attitude concerning modifications are the overall needs for evolving a project mature firm.

Adelakun (2003) in his study explains about a model for examining information technology maturity outsourcing in firms. Firms outsource their information technology for reasons namely reduction of cost, superior skill sets access, concentrate on core competence and strategic purposes. Firms that outsource the operations, management, and development of their information technology activities are at different maturity levels. This study recognizes 5 maturity levels based on a review of literature and discussion of an informal interview with practitioners. The 5 maturity stages evolved in this study are forming, in-sourcing, and norming, performing and storming. Thus it can be inferred from the study that organizations must outsource their functions of information technology at different maturity levels to improve their performance properly.

April, Hayes, Abran and Dumke (2004) proposed a study on software maintenance maturity model and on software maintenance process model. The author describes the improvement and assessment of the function of software maintenance by suggesting developments to the standards of software maintenance and by introducing a suggested SMMM (Software Maintenance Maturity Model) for daily activities of software maintenance. The below figure shows the software maintenance maturity model levels:

Level	Level Name	Risk	Interpretation
0	Incomplete	Highest	No sense of process
1	Performed	Very High	ad hoc maintenance process
2	Managed	High	basic request-based process
3	Established	Medium	state-of-the-art maintenance process
4	Predictable	Low	generally difficult to achieve now
5	Optimizing	Very Low	technologically challenging to attain

Figure 3.2 SMMM Levels

Source: April et al, 2004

The function of software maintenance faces management models scarcity to facilitate its management, continuous growth and evaluation. The software maintenance maturity model

addresses the distinct software maintenance activities while securing a framework common to that of capability maturity model and integration maturity model. It is configured to be utilized as a supplement to this model. The software maintenance maturity model is based on experience of practitioner, seminal literature and international standards on maintenance of software. It can be inferred from the study that the software maintenance maturity model is very essential for organizations to improve, assess and resolve the quality problems of the software maintenance function.

According to the study of Supic (2005) project management maturity models is a part of project management development process and presents a relatively new subject. Project management maturity models are utilized to plan and assess the project management's growth strategically and need resources in a firm. The models of maturity are also utilized as a benchmark of performance among varied sectors and firms. Their fieldwork assesses the average project management model of maturity for Croatian firm correlated maturity with general firm features like market, ownership, industry, size and describes the rapport between environment maturity of project management and process maturity of project management. Croatian firms are at reduced levels of maturity. There are variations in maturity among sectors and varied markets and sizes in which firms perform. The variations represent that there is a connection between greater performance of a firm and its project management maturity model.

The study reveals that there is a greater correlation between maturity of project management surroundings and project management processes and maturity can be regarded similar from both prospects. There is a greater identification and greater expectation considering the growth of project management practice within firms. However reducing closed approach and budgets for matured project management represents hesitation. Project management alone cannot develop the Croatian firm's competitiveness. Thus it can be understood that the project management is considered as an essential element in the overall surroundings of business.

Bay and Skitmore (2006) study presents the pilot survey results at ascertaining the project management maturity level in Indonesian firms. The assessment of Kerzner's Level 2 tool was utilized which generally assess levels of maturity throughout the different phases of a firm's lifecycle of project management that is its embryonic phase, phases of executive management acceptance, support of line management, maturity, and growth phases. The below figure shows the Kerzner Project Management Maturity Model:

Figure 3.3 Kerzner PMMMSource: IIL Asia

This model is used to benchmark seventy participants performing in six varied kinds of firms in Indonesia. Variations in the present and expected future levels of maturity were predicted in the response of project managers engaged in varied kinds of firms with consultants, manufacturers and financial institutions having met maturity already, while all are anticipated to meet maturity in future. Unexpectedly no essential variations were predicted between the outcomes for different steps of the lifecycle of project. On the whole the outcome ensures that methodologies of project management have not yet been utilized much efficiently in Indonesia. Although they reveal a rational level to have been accomplished already, still there is a lot to perform to accomplish perceived importance. However around 85 percent of participants believe that implementing methods of project management is essential or very essential; this may be a time matter to realize. It can be understood from the study that the project management firms of Indonesia must offer a reasonable indication of maturity and effectiveness level.

Rendon (2006) conducted a study on measuring contract management process maturity, a tool for enhancing the value chain. The process of contract management is a developing significance as outsourcing continues to develop and suppliers become virtual expansion for the capability and competence of organization. Yet present studies mention that firms are not handling the process of contracting as the core competence i.e. they accomplish strategic competitive benefit resulting from a matured process of contracting. These firms encounter protracted contract negotiation and development cycles, inappropriate approvals of contract, restricted control and visibility of contract and inability to assure compliance of supplier with terms of the contract. The maturity model's usage developed a successful process for improving and measuring critical core methods of organization. This study will argue a case study on the application and growth of CMMM (contract management maturity model) as a process for improving and assessing contract management process capability of organization. The below figure shows the CMMM:

Maturity Levels	Contract Management Key Process Areas					
	Procurement Planning	Solicitation Planning	Solicitation	Source Selection	Contract Administration	Contract Closeout
5 Optimized						
4 Integrated				*		
3 Structured	*	*	*		*	
2 Basic						
1 Ad Hoc						*

Figure 3.3 Contract Management Maturity Model Source: Rendon, 2006

The contract management maturity model offers a visual component to support a firm to assess the main steps which they must achieve when purchasing services, products or integrated solutions in either private or public sectors of business. The levels of maturity reflected in the model permits a firm to assess their capability level for every 6 leading steps in their respective process of buying. Thus it can be found from the study that contract management maturity model must be implemented efficiently by any commercial, government or firms to develop their process capability of contract management.

According to the study of Beset (2007) the purpose of this study is to evolve a model to assess the PMMM of a design office of architecture. The need of architecture project management maturity model is to evolve a surrounding for efficient and productive conditions of design. By developing the architectural project maturity model's level the office of architecture design will make chances to concentrate on its concern for greater quality process of architecture design. To decide whether architecture project management maturity model assessment methodology is performing appropriately, a semi-structured survey is organized with chosen offices of architectural design. A five level project management maturity model is evolved to assess the design offices of architecture's project management maturity model. The assessment's outcomes offer the essential data for architects to develop their project management activities and processes. The well defined architectural design process structure seems to assist the culture of project management and have importance of greater maturity levels of project management.

Gonzalez, Marle and Bocquet (2007) proposed a study on measuring project maturity an example in a French automotive organization. The limitations of the project are developing continuously in terms of cost, time, ROI, customer satisfaction and in terms of a number of stakeholders, complexity, a number of parameters to handle and a number of communication between these parameters. The community of project management has described concern in methodologies evolved to improve and assess PMM during the past 15 years. Several firms have been performing on the issue and have evolved varied types of PMM models. In this study the author describes the study on maturity of project in a French automotive organization. The aim of the study is to explain and perceive the significance of utilizing a model of maturity in firms as project success is a major factor. The author describes how the project maturity measure supports to develop a control over project by utilizing KMI (key maturity indicators). Thus it can be understood from the study that project management can supervise and control projects using maturity indicators and maturity models to develop the performance of project.

Sukhoo, Barnard and Eloff (2007) proposed a study on an evolutionary software project management maturity model for Mauritius. Software PM is the present discipline that develops during the 2nd half of 20th century. Most of the methodologies of software project management feasible nowadays were evolved in European or western nations and the study revealed that there is a requirement to formalize a framework of software project management for developing nations specifically in Africa. Based on discussions and survey with software professionals a software project management methodology is being developed. The methodology is based on a model of maturity as Mauritius predicted to be the methodologies of software project management in European/Western firms. This study recommends the ESPM (evolutionary software project management maturity model). This model is indicated as a conical framework to show the evolutionary growth of Kerzner project approach and is represented onto the PDCA (Plan-Do-Check-Act) cycle. The model is a structure to better show the evolutionary growth to be regarded for project management and a developed level of project management. In order to verify the proposed methodology, one case study has been involved. The methodology application to the project could not be argued briefly in this study. The growth of Kerzner project approaches in a firm takes time and case study is a snapshot of methodology applications.

Constantinescu and Iacob (2007) proposed a study on capability maturity model integration. In this study the author presents an overview and an introduction to the process model of capability, maturity model integration that seemed from the requirement to mention company wide, generic and issues of organization for vast number of active domains offering a flexible structure that permits further extensions of plug-ins to be added. In a trial to develop the way of firms and organizations they arrange and perform business, several standards, methodologies and models. Most of these models are meant to develop particular activities only for particular firms and do not acquire a systematic approach to general issues which most firms are facing. To resolve these problems this study has adopted capability maturity model integration. Such models have been made for software developing firms namely SEI (Software Engineering Institute) SW-CMM (Capability Maturity Model for Software) concentrates on software engineering firms. Capability maturity model integration offers an interconnected and stable model with much brief description of the product lifecycle than other alternative products of process for the improvement of the study. Thus it can be understood from the study that capability maturity model integration enhances collaboration between software and systems engineering aids firm to concentrate on end product and its related methods.

Fauzi and Ramli (2007) study depicts a model to assess SPM (software project management) practices using their SPMMA (Software Project Management Maturity Assessment) model. They argue the procedures, assessment outputs and inputs of model, the questionnaires of assessment, selection of team related with software project management maturity assessment model. The author has verified their model in a middle sized information technology firm. One pilot project conferred with certification of ISO 9001 has been chosen to carry out the assessment. For this assessment version it only focuses on the practices of project management which consists of project monitoring, planning of project, risk and control management areas of process. This study also argues about the positive and negative facts of the present method in the pilot project. Thus it can be understood from the study that SPMMA model is very much helpful for software organizations to monitor and control projects successfully.

Desai (2007) proposed a case study on organizational project management maturity model. The extent to which a firm practices project management efficiently is known as OPM (organizational project management). The below figure shows the OPM3 Model:

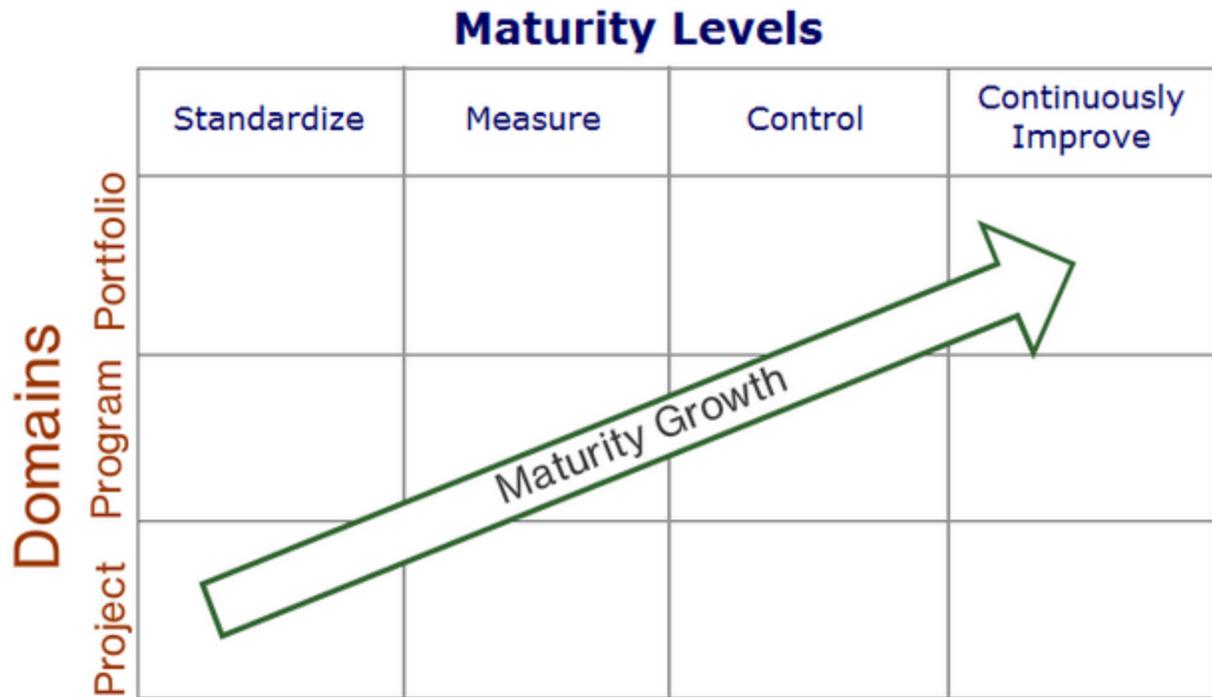


Figure 3.4 Organizational Project management maturity model

Source: Comindwork.com

OPM is referred as the application of skills, techniques, knowledge and tools of project and organizational activities to accomplish the targets of a firm through projects. Efficient PM helps the firms to accomplish strategic targets. By arranging organizational project management strategies to strategy of business, it fills the gap between strategic planning processes of firms to achieve successful projects. The objective of this study is to apply and understand the present organizational project management maturity model's framework in the context of the IProcure Systems Inc. Company. Thus it can be understood from the study that organizational project management maturity model must be implemented in every firms to accomplish their strategic targets through projects while securing resources of organization.

According to the study of Marcal *et al* (2007) the CMM (capability maturity model) and CMMI (capability maturity model integration) have been used widely for assessing maturity of organization and capability of process throughout the globe. However the quick pace of modification in IT has affected developing frustration with heavy weight schedules, documentation and specifications imposed by maturity model and contractual inertia criteria of compliance. The methodologies of agile have been acquired to solve this challenge. The

target of this study is to present a representation between capability maturity model integration and to one of these methodologies on the scrum. It reveals how scrum mentions the process areas of project management of capability maturity model integration. This is helpful for firms that have their plan-driven method based on capability maturity model integration and integration is scheduling to develop its methods towards agility or to help firms to refer a new framework of project management based on both scrum and capability maturity model practices. Thus it can be inferred from the study that capability maturity model integration is helpful for firms to develop their processes towards agility or support firms to refer a new framework for project management based on both scrums and capability maturity model practices.

Brookes and Clark (2009) study presents the examination findings to estimate the PMMM (project management maturity model) role in developing practice. Project management maturity model are used constructs widely. Implicit within their usage is a notion that develops the performance of project. However restricted empirical proof occurs to perceive the contrast efficiency of these approaches. Furthermore there are numerous major omissions in certain existing modes of maturity. This study estimates existing project management maturity model critically and outlines several differences between them. The evaluation reveals that, project management maturity model is used reactively not proactively and that they do not have adequate rigorous protocols in project management maturity evaluation. This study infers by mentioning the restricted empirical proof that has related project performance and project maturity and makes recommendations for further examinations to fill this gap. It can be found from the study that project management maturity model is required in developing the performance of project management.

According to the study of Khoshgoftar (2009) maturity models are one of the vast spread regions in the sector of developing performance of organization. They recognize strengths and weaknesses of organization as well as offer information of benchmarking. There are numerous models of maturity like CMMI, OPM3, BPMM, P3M3, Kerzner project management maturity model and PRINCE etc. These models are varied from each other in terms of their features and factors and also there is no standard related to these models. Therefore it is essential for firms to be capable of assessing their circumstances by a useful and comprehensive model. Accordingly, the aim of this research is to contrast the models and to predict a suitable model

of maturity. This study compares present models of maturity in terms of chosen variables. The outcomes reveal that organizational project management maturity model is much applicable than others. Thus it can be understood from the study that among the numerous models one of the models is discussed and has been chosen as a suitable one for organizations.

Patel and Ramachandran (2009) conducted a study on agile maturity model a software process improvement framework for agile software development practices. The methodologies of agile software development have established best practices in the development of software. However the author required to supervise and adopt those practices continuously to expand their advantages. Their study has concentrated on suitability, adaptability and SMM known as AMM (agile maturity model) for environments of agile software development. This study establishes a method of suitability assessment, adaptability assessment and improvement structure for improving and assessing best practices of agile. The author has also evolved an automated tool based on web to assess suitability, improvement and adaptability for practices of agile. The main aim of this study is to refer a model of generic process for improvement of software process that is applicable for environments of agile software development, to define and recognize agile practices for every level of maturity and associate agile practices issue to the goals of improvement. It can be understood from the study that agile maturity model is developed for future growth in the area of agile improvement of software development process. Wazed and Ahmed (2009) conducted a study on project management maturity model (PMMM) in developing online statistical process control software. The concept of project management is acquiring, developing familiarity to manufacturers, developers of product and particularly engineers because of its versatility uniqueness and its capability to manage costs and time much effectively. With the every developing competitive surrounding, the commencement of project lead time is becoming an essential problem.

PMMM (project management maturity model) can combine the relevant perspectives and contribute to management of time and cost. This study encloses entire perspectives of handling a real time engineering SPC (statistical process control) development project of software ranging from conceptualization of project to risk management, control of cost and measurement of performance. Along the way different techniques and tools have been utilized. The main inferences found from the study are that entire perspectives of project management must be regarded in a combined way. If any one of them is missed it may cause bad outcomes.

With the approach of project management and statistical process control solution any project may be handled within the budgeted costs and scheduled time. Thus it can be understood from the study that PM is very essential for managing big projects to attain time and cost limitations. Crowston and Qin (2010) conducted a study on capability maturity model for scientific data management. In this study the author suggested a CMM (capability maturity model) for SDM (scientific data management) practices with the target of assisting assessment and development of these activities. The below figure shows the capability maturity model:

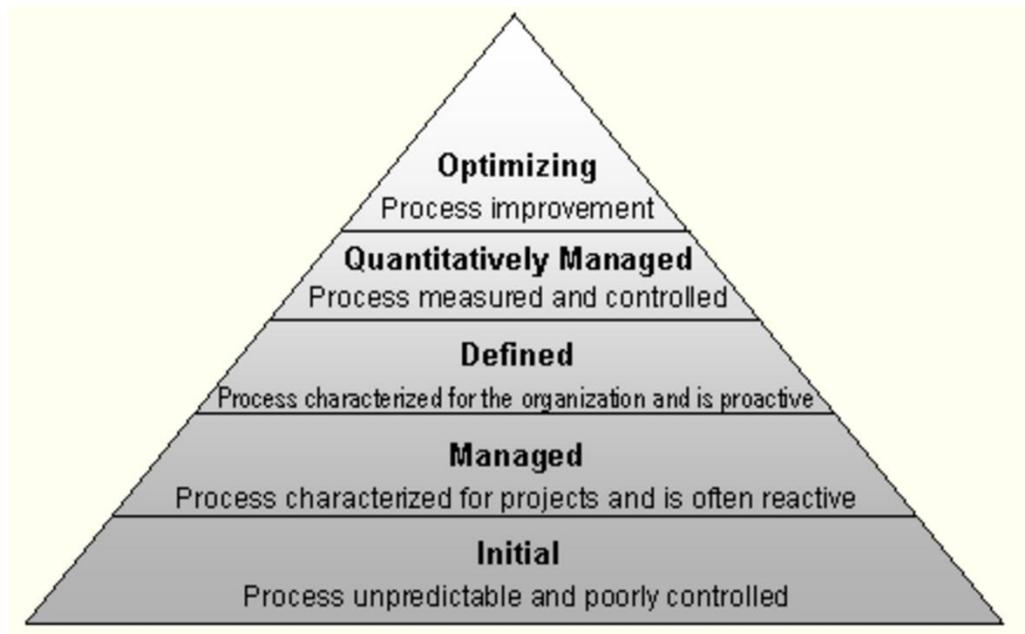


Figure 3.5 Capability Maturity Model Source: 12manage.com

The capability maturity model explains the major process regions and practices essential for efficient scientific data management. The capability maturity model further describes the firms by depicting the maturity level of these processes, which determines the capability of the organization to perform the process reliably. This study recommends that this structure will be helpful to firms in planning and evaluate developments to their scientific data management practices. It can be concluded from the study that careful explanation of varied maturity levels may serve as an impetus for firms to develop their maturity level thus enhancing better scientific data management.

According to Ghazal, Soomro and Shaalam (2013) CMM is considered as a method by which features of mature enterprises are used. It comprises of structured levels that shows how activities are being performed, practices and procedures of an organization are in competence

with the produced outcomes or not. The two major objectives of CMM are to predict firm's maturity level as well as the practices that are in compliance with the firm's objectives. It is required to establish a CMM in order to compete in the market. CMM came out with a view that work conducted in IT and software companies require up gradations. CMM also helps in establishing a benchmark and opens a direction for further improvement. This will help in determining current position of an enterprise with respect to its competitors. Being a recognized practices benchmarking also pose a problem as most of the firms doesn't share their competitive secrets. Capability maturity models in this regard use various resources to establish best practices for a particular domain. Thus, firms benchmark them among these best practices. CMM was developed in order to develop software. For this, organizations must be capable of engaging several key software development practices such as configuration management or requirements determination.

The above mentioned practices are combined into key process areas in this model. These areas when implemented collectively fulfill the goals important for attaining success. Reliable organizations execute these practices properly and perform them in a consistent manner. Each level of the development process is termed as common features. The efficiency of a wide range of business operations has been enhanced with the use of CMM. In other industry sectors this framework has been adopted to make improvements in business processes and increase organizational efficiency significantly. Best practice such as those of project management and lean techniques are considered as a major aspect of CMM which facilitates process improvement. As per the maturity level business processes are being rated or measured. There are various project management risks that have been described by the author such as poor management, scope, budget availability and resource requirements. Other than this, expectations of stakeholders involved in a project is not managed properly, difficulties in communication, weak project management, lack of structural framework, problems associated with external suppliers are some of the other project management risks. In this regard, CMM proves to be a better example in solving all the above mentioned problems. It can be thus inferred that in order to conduct business operations successfully models such as CMM can be quite useful. Moreover, CMM helps in managing projects' cost and time effectively. Project management flaws can be eliminated properly with the help of CMM.

Demir and Kocabas (2010) conducted a study on project management maturity model in educational organizations. PMMM (Project Management Maturity Model) is getting familiar because of its ability and versatility to cost much effectively and control time. Several organizations have embraced project management as a major strategy for remaining rivalry in nowadays highly competitive business surroundings. The project management maturity model permits the firms to recognize what steps must be acquired, what deeds must be achieved and in what sequence to realize measurable and meaningful outcomes. With the help of maturity model educational firms can decide their ability to deliver higher education on a five scale. A literature review has been made about maturity model and it has been argued how to utilize maturity level in educational firms in this study. Thus it can be understood from the study that to develop effectiveness of educational firms, project management maturity model becomes a strategic part of yearly organizational plan.

According to the study of Jamaluddin, Chin and Lee (2010) surveys show that greater the firms, PMMM develops the larger performance of the project. However, it is important to first perceive the needs of such a model of maturity in the target sector or industry context. In this study the author targets to assess the present status of PMMM adoption in information, communication and telecommunication industry in Malaysia as an initiative to conceptualize usage model in the sector. An online survey was undertaken to examine the project management maturity model's awareness level, its practice or adoption extent and its prerequisite needs for utilization in information, communication and telecommunication industry. Based on the observations a preliminary structure of project management maturity model is suggested in their next study phase. Thus project management maturity model is very essential for organizations to perform their projects successfully.

The study of Jing-wu and Xian (2010) presents the PRINCE2 based PMM model that positions and determines relative level of project management of organization with other firms. The comprehensive model follows a systematic process to set up present level of project management of firm. Every level of maturity comprises of focused areas of key project management and every key focuses on the area of project management tools according to PRINCE2. The model develops from functionality driven practices of organizations to project driven firm incorporates continuous learning of project. It can be found from the study that the

base model of PRINCE2 offers a disciplined and orderly method to accomplish greater project management maturity level.

The major need of Khosravi *et al* (2011) study is to present a case study in enforcing a project for improvement and developing the methodology of project management in a company based on project. The approach used in this development project is the most essential model in maturity of project management. The major project points are emphasized in this study in addition to detailed literature review in maturity models are context, significance of maturity models and OPM3 (organizational project management maturity model) in which the latter is the general structure for the approach used in this development project. The 5 steps described by organizational project management maturity model have been undertaken in this study. For the assessment of maturity level, a program was evolved in Microsoft Office Excel. It can be understood from this study that organizations must implement organizational project management maturity model to improve the effectiveness and competencies of project management.

According to the study of Al-Qutaish and Abran (2011) the product quality can be evaluated either directly by viewing into the product itself or indirectly through evaluating the method utilized to evolve that product. In the field of software engineering there are presently many capabilities and models of maturity for evaluating a group of particular software methods but only few maturity models of product are interested in evaluating the software product quality. This study describes a model of maturity configured to evaluate the software product quality directly that is the SPQMM (Software Product Quality Maturity Model). This maturity model design is used to evaluate the software product quality which indicates a new challenge in the study of software engineering sector. This model is based on 6 sigma product quality view and manages its sub-models specified in ISO 9126 i.e. the SPIQ (Software Product Internal Quality Maturity Model), the SPQUIMM (Software Product Quality-In-Use Maturity Model) and SPEQMM (Software Product External Quality Maturity Model). This SPQMM is utilized to decide the quality maturity of a software product. Henceforth, it can be inferred that the quality maturity model based on the software product is an essential one for the IT firms in order to assess the quality of their products.

Elmaallam and Kriouile (2011) conducted a study on a model of maturity for IS risk management. The risk management is a crucial direction for any firms to accomplish its

objectives. As the information system is a major asset for firms handling information system risks it becomes much essential, particularly within a globe in perpetual modification. Since information system risk management creates value and follows a continuous improvement process arranged by a maturity model representing in every time with the runways of development. The learnt literature reveals the lack of model that handles the maturity of information system RM and that regards the entire components of information system. The main purpose of this is to begin reflex-ion around this region and deliver an information system RM maturity model. First the author mentioned the definition of information system that will fix the scope. Secondly the author refers the process of information system RM that will fix the way. Thirdly the author also evolves the information system RM maturity model. Finally the author infers prospects opened to this study. Information system is an essential component for development of business. Thus it can be understood from the study that information system's RM maturity model is indispensable and an essential activity for all organizations.

Liou (2011) proposed a study on improving CMMI in an immature world of software development. The researches of software engineering have attempted to recognize the obstacles and success factors for the development of software. From most of the research conclusions associated to the problem reveal that process of software is one of the most essential subjects contributing to the failure or success for the development of software. The capability maturity model integration focuses specially on development of software. However as evolving from CMM (capability maturity model) of software the capability maturity model integration has inherited certain process problems that can degrade the process maturity effectiveness of a firm severely. In this study the author describes certain problems occurring in present version of capability maturity model integration. The upward verification method of maturity level is a leading problem. Another leading problem for capability maturity model integration is its lack of process practices for firms and their suppliers have greater level of maturity than they perform. Certain feasible suggestions for those problems are suggested to develop capability maturity model integration. Thus it can be found from the study that capability maturity model integration is a better model for process of software development improvement and management.

Yimam (2011) has learnt the project management maturity in construction sector of evolving nations. This study has also recognized two leading gaps in the existing models of maturity

and suggests a project management maturity model to solve the gaps and adapt it to the developing nation's context. The contractor's maturity assessment in Ethiopia predicted reduced project maturity level... Further the study predicted ISO certified project management maturity of contractors to be greater than those which are not. Similarly the contractor's project management maturity which is involved in the program of capacity building is predicted to be greater than those which did not involve in it. Similarly project management maturity of road contractors is predicted to be greater than building contractors. Moreover the study predicted greater level of maturity for procurement, material, time, cost, finance and HRM. Safety and risk management are predicted to be the least matured areas of project management. It can be understood from the study that the project management maturity must be assessed not only in construction sector but also in other sectors in developing nations for managing projects successfully.

According to the study of Chouhan and Mathur (2012) with developing demand for products of software with greater quality, it has become crucial for firms to adopt models of quality namely ISO (International Standard Organization) 9001 CMMI (Capability Maturity Model Integration) or Six Sigma etc to sail and set on their quality journey. The strong importance on assurance of software quality in these models coupled with mantra of modern days especially prevention is the requirement for proactive assurance of quality is greater than ever. SQA (software quality assurance) is a systematic and planned approach essential to offer sufficient confidence on a product or an item that assures to set up procedures, policies and standards. This study describes the SQA role in firms to ensure software product development quality. As the firms change and grow the roles and needs also alter. With the growth of the organizations, their demands and roles also change. Relying on the kind of organization and product itself the lifecycles may vary and the tasks carried out by quality firms develop. The evolution takes popular tracks following the patterns based on organization's maturity and other factors. The SEI (Software Engineering Institute) maturity model and other standards are common in perceiving the roles and importance for quality group. CMMI is a method of improvement for the development of software. This study explains the significance of software quality assurance development. It can be found from the study that to accomplish capability maturity model level organization has to follow entire procedures and standards of software quality assurance to improve and control the productivity of software process.

Hemmati, hemmati and Ahmadifard (2012) conducted a study on the acquaintance with organizational maturity model of project management. The PMI (Project Management Institute of America) prepared the model of maturity of organizational PM in 2003. Organizational Project Management maturity model concentrates on extensive project management pattern in firms and towards its responsibilities and goals. Because every project must be completed by successful performance of skills, science and components of PM, its last value must be viewed as a tool for entire values in manual values of the firm and this choice must be considered during execution of project. Project Management Institute of America organization also prepared examining methodology based on standard whole programs of consultants and analyzers. The target of this study is representation of organizational PM significance for organizational project management maturity model understanding values. The intention of developing this study is to represent the organizational PM significance to manage the project on maturity model while, understanding the values. The organizational PM meaning in which organizational project management maturity model predicted is new. This study attempts to implement this document and describes how this model is utilized and what profits are acquired by the firms.

According to the study of Campbell (2012) nowadays firms are handling with uncertainty and complexity on a scale that has never been viewed before, social and economic upheaval is altering the game rapidly than they can study it. Several firms are configured for business as usual for a time when there is no modification and when they are performing effectively and at full speed. This study uses new norm which evolves agility to be capable to adapt and change constantly to meet compliance, competitive and economic drawbacks. A truly agile firm is capable to meet these drawbacks through projects that are nimble and adjusted and assessed constantly by an informed and knowledgeable leadership and in a way that is normal and routine for staffs. This study has adopted organizational change maturity model. The below figure shows the organizational change maturity model:

Level 1 Initial	Level 2 Repeatable	Level 3 Defined	Level 4 Managed	Level 5 Optimised	Organisational Change Maturity Model
		Project Sponsorship, Executives are tracking Change KPI's and prioritisation processes in place	Organisational Change leadership, accurate feedback, constant assessment to change targets	Executive change office, Board reporting, Agile project Governance	Strategic Change Leadership Driving (Should/Why?)
	Repeatable communication and training processes available for business	Business Units have view of Project change (Heat Map) & ability to influence approach	Standards are in place to rollout change quickly & consistently Feedback to adjust & manage effectiveness	Business areas comfortable with constant change Leaders and managers effectively driving	Business Change Readiness Receiving (How/When?)
Ad-hoc project Change Management (focus on Comms & training)	Change managers on projects, Change methodology in place, most projects using	Change & Project methodologies linked, Change training for Project Managers	Projects designed and assessed around Change management vision & inputs	Smaller initiatives, constant assessment of an ongoing Change portfolio	Project Change Management Implementing (What/Who?)

Figure 3.6 Organizational change maturity model Source: Campbell. 2012

This model has five maturity levels across 3 major categories of organizational change and it is an ideal component to assess the levels of capability and evolve approaches to have maturity further. It can be concluded from the study that capability of project change management develops with the strength of firms in project management.

Rapaccini, Sacconi, Pezzotta, Burger and Ganz (2012) proposed a study on service development in product service systems of maturity model. This study suggests a model for assessing new service development maturity methods on manufacturing firms that provide services of product. The model adopts a 5 stage scale on which key elements are estimated according to following dimensions: 1) the use of particular resources, tools and skills; 2) approach utilized to handle projects and processes; 3) participation of suppliers, stakeholders and customers and 4) performance management system's adoption. An empirical model application was undertaken based on an inter-firm workshop and in depth surveys. Such a model permits not only to explain the maturity of new service development methods of an organization but also recognizes the major gaps to prioritize development actions. Thus it can be found from the study that the maturity level of new service development methods of product

related firms or manufacturing firms for growth of product services is useful in assessing how the case firms undertake their new service development methods.

Lianying, Jing and Xinxing (2012) proposed a study on the project management maturity model and application based on PRINCE2. The PMM model is considered as a helpful component to estimate project management capability of organizations. Through review of literature this study constructs a new type of PMM known as PRINCE2 Capability Maturity Model based on the principle of attribute synthetic assessment and PRINCE2 method. The below figure shows the PRINCE2 Maturity Model:

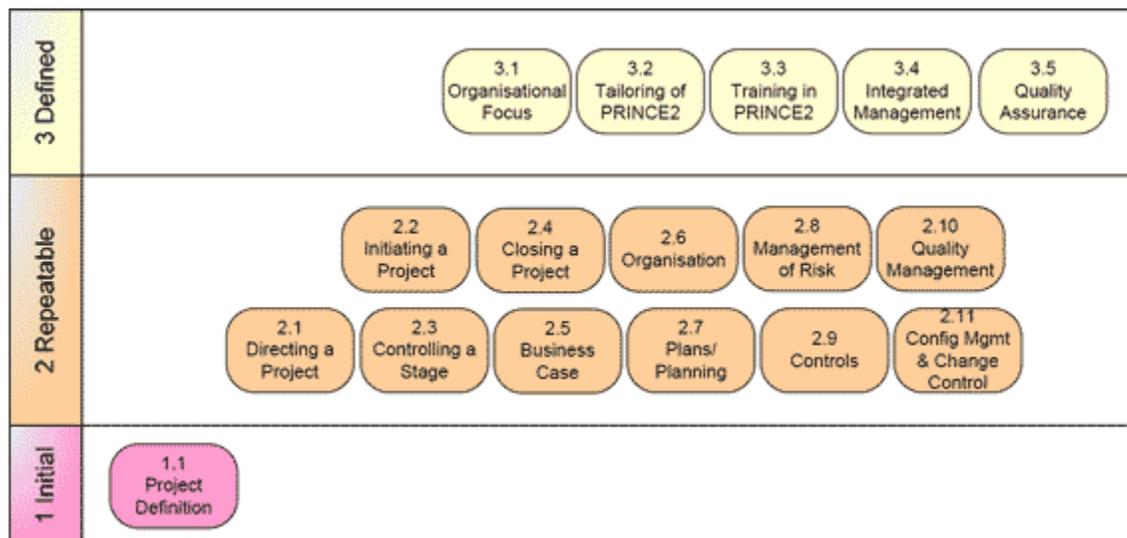


Figure 3.7 PRINCE2 Maturity Model Source: Oxford Brookes University

The PRINCE2 maturity model explains a group of KPA (key process areas) needed for efficient use and implementation of PRINCE 2 within a firm. This is a core value of PRINCE 2 maturity model and this model explains how to handle an individual project which does not involve any methods on how to embed P2MM whereas PRINCE2 maturity model performs. PRINCE2 maturity model explains the major practices aligned to tools and processes of P2MM to enhance repeatable method application and moves further to explain the major practices needed to embed the process as a standard process of business for handling projects. These involve assigning ownership, training, tailoring the process, mechanisms of quality assurance and combining with other systems of management. This model has established a quantitative system of evaluation index utilized as a survey questionnaire method based on web and cobweb model to present the last outcome.

Neverauskas and Railaite (2013) proposed a study on formation approach for project management maturity measurement. The success of the business is one of the essential activity features of the organization. In several cases, this is achieved through the use of modern PM for accomplishing strategic targets. Contemporary PM is based on permanent continuous enhancement PMM in progress firm. More and more private and public sector firms become concerned in project management and its impact to meet strategic targets of organization. They are making efforts to develop the professional skills and knowledge in PM and attempting to develop the PMM level. The methodology used in this study is based on evaluating and identifying major problems considering evaluation project management maturity and perceiving project management peculiarities in firms with its particular challenge surroundings. The theoretical examination of existing models of maturity permitted contrasting them and recognizing their benefits and drawbacks. Most of the familiar project management maturity model could be utilized in different firms but not for firms featured with specific activity like high schools and others. It can be inferred from the study that this study offers solutions to measure the maturity of PM and adapted proper decisions of management.

Carcary (2013) conducted a study on IT Risk management a capability maturity model perspective. Perceiving the value derived from investments of information technology and information technology enabled operational movements, it is hard and has been a research subject and discussion among information, communication technology, academics and practitioners for several years. This is specifically so because creative developments of technology have assisted transformative modifications in activities of organizational operations. The study continues to examine approaches not only to perceive the value derived by information technology but also to optimize the value. One of the major perspectives of optimizing information technology-driven value is the need to manage risk effectively. The information technology risk landscape's continual evolution needs efficient practices of risk management for entire area of information technology risk such as investments, security, service agreements, information privacy and protection of data. Handling these areas of risk effectively pose specific relative from the chief risk officers and chief information officers prospect. Hence essential considerations must be provided to not only for the methods included in prioritizing, assessing, monitoring and handling these hazards but also to assure the growth of a proper culture of risk and the set up of efficient governance structures of risk management

to assist efficient risk management. This study investigates the framework approach/maturity model to develop the information technology capabilities of organizations with particular reference to handle information technology associated hazards effectively and develop value derived over time. A new maturity model based on information technology risk management is presented in this study. The below figure shows the Information Technology-Capability Maturity Model Framework:



Figure 3.8 IT-CMFSource: Carcary, 2013

This structure is an information technology capability maturity framework part which assists value driven information technology practices of management. It was evolved by Ireland Maynooth National University in Innovation Value Institute following an open innovation research and a design science approach. The Critical capability of risk management described in this study enhances firms to decide their information technology risk management maturity and recognize major suggestions in particular areas to develop over time of maturity. This study also presents maturity model approach analysis to handle risk, to develop information technology capabilities of organization and to derive enterprise wide value from much mature practices of information technology. Thus it can be understood that this study has developed a new Information Technology-Capability Maturity Model to develop and identify the risk management capabilities of the organization.

According to the study of Farrokh and Mansur (2013) there occurs a strong correlation between effective project management and competitive benefit for firms. Therefore firms are striving to assess and standardize the severity of their project management capabilities and processes that is mature for project management. Standardization firms and researchers have evolved numerous PMMM (project management maturity models) to assess maturity of project management of firms. This study describes a critical evaluation of certain major project management maturity models against organizational project management maturity model in several ways to view at which project management maturity models is the most inclusive model which could assess several organizational aspects and support the firms in acquiring competitive benefit over rivalries. After a brief morphological model analysis it is inferred that organizational project management maturity model is the most promising model of maturity that can offer a competitive benefit to firms due to its distinct approach of improvement and assessment strategies. It can be understood from the study that organizational project management maturity model is the most promising model of maturity for any firms carrying out projects to acquire competitive benefit.

The study Ghazal, Soomro and Shaalan (2013) discusses about the integration of PMM (project Management maturity) based on CMMI (capability maturity model integration). Software development is an industry field which is typified by iterative advancement and rapid change. In consequence several frameworks of project management occur within the software development field. Some of these have been evolved from the existing models acquired from other sectors of industry. On the other hand, some of them have developed over time in response to rapidly modifying software developer's requirements and their assisting teams of project. This study investigated 2 specific frameworks specifically which are used familiarly within development of software namely the CMMI (Capability Maturity Model Integration) and PMM (Project Management Maturity) structure. The use of an integrated framework will develop the project management efficacy and will permit stakeholders involved to have larger visibility and control of essential problems. This study contrasts and compared critically the two and suggests a synthesized structure which draws upon the good elements of two models to make an agile structure, which motivates technical precision and best practice within the projects of software. It is decided that a synthesized structure decreases the hazards inherent in PM and can be deployed in a range of circumstances effectively. It can be inferred that this

study has integrated project management maturity model and capability maturity model to comprise a unified component which is helpful for several software project management.

Abdul Rahman, Asef, Alashwal and Loo (2013) proposed a study on a conceptual model of the relationship between risk management maturity and organizational learning. In Malaysia, the construction projects included prevailing hazards that influence the project embodies management triangle performance. An approach to mature risk management would be proper to overcome these hazards. The attempts of organizational maturity in its major target is to acquire greater performance in varied aspects of project management involving risk management of project, OPM3 (organizational project management maturity model) is a model of maturity introduced by PMI (Project Management Institute) which suggests continuous development involving entire nine areas of project management. The correlation between organizational learning and risk management has been emphasized by different authors. However the rapport between organizational project management maturity model and the two processes have not decided yet.

Furthermore literature has not introduced any practices of learning which is helpful to develop risk management of organizational project. Regarding the present subject's literature this study tries to advance a theoretical model of correlation between practices of organizational learning and maturity of project risk management. Three moderating factors are also discussed and presented in the model namely size of the organization, experience level of employees and turbulence of technology. It can be inferred from the study that the construction organizations are benefiting from the implementation of the organizational project management maturity model to advantage themselves from practices of learning.

Fedounaki, Okar and Alami (2013) conducted a study on a maturity model for business intelligence system project in small and medium sized enterprises. Several studies on models of maturity have been undertaken. Some refer mainly to models of maturity for business intelligence. Initiating from existing literature analysis, the aim of this study is to evolve a model of maturity for the project of business intelligence system in SMEs (small and medium sized enterprises) based on critical success factors concept. This model will be approved by two processes. The first is a pilot model test in a medium sized enterprise in Morocco to describe the capability of assessing the business intelligence system project maturity and whether it can evolve a development roadmap. The second is an empirical examination in

Morocco's small and medium sized enterprises by utilizing a survey to depict whether it can estimate the business intelligence system project's maturity in various industries. It was predicted that in different lifecycle business intelligence system stage's maturity was independent from each other. The stages are determined mainly by technical perspectives are much advanced than those stages that are related to people and process. Thus it can be concluded that maturity model is essential for small and medium sized enterprises to assess their business intelligence system's projects. Weldemariam (2013) conducted a study on assessment of project management capability. This study presents a case study organized on project management capability assessment using a PMMM. The purpose of this study is to evolve an understanding of what PMM is and assess the present maturity level of the organization. The project management maturity model can be defined as a tool of assessment in order to contrast the capability of the delivery of the project with the established good practices, by going against the competitive firms. Additionally measuring the maturity level offers a roadmap for development to the greatest maturity level. The maturity model consists of major methods and best practices of project management. The model utilized in this study is evolved utilizing two dimensional structures that depict key areas of knowledge and five level maturities. The outcome was acquired through empirical review and analysis of process of project management. The findings from assessment represents that the overall capability of PM of firm is at level 2 maturity and below.

The outcome inferred that certain processes of PM were referred but not applied to entire projects consistently. It can be inferred from the study that PMMM is useful for firms to develop and progress capability. Zeb, Froese and Vanier (2013) proposed a study on infrastructure management process maturity model development and testing. For a better aid infrastructure firms and society must employ their systems of civil infrastructure efficiently and effectively engaging better practices in management of infrastructure and similar systems of information. Information system's matured communications follow a usual trend, away from informal human to human interaction towards computer to computer exchange of information. For effective enforcement of information exchange based on computer these interactions must be explained formally. As a part of a bigger study into the communication

formalization within the industry of infrastructure this study investigates the level to which the communications and processes of work are designed and formalized presently within the infrastructure management domain.

The following study adopts an approach of maturity model. Apart from that, there are numerous other models of maturity that performs in the IT firms, but, their processes and communications are operated and managed in a different manner. To solve this problem an IM-PMM (infrastructure management process maturity model) is evolved to assess the extent to which the communication and processes of work are formalized within a particular domain of engineering namely management of infrastructure. A 5 step process is utilized to evolve infrastructure management process maturity model to refer the issues, contrast the already existing models of maturity, evolve the model, apply the model and estimate the model of maturity.

This study explains the application and development of IM-PMM that can benchmark the present maturity level of work communications and processes in infrastructure management domain. The suggested infrastructure management process maturity model utilizes a 5 maturity level scale and utilizes 3 core elements to benchmark already occurring processes of work plus additional element to benchmark existing interactions. The suggested model has been tested and applied in infrastructure management domain using an approach of structured interview. The outcomes reveal that existing communications and processes of work are achieved in an adhoc way describing the requirement for further developments that work if infrastructure firms intend to deploy advanced IS. As an evaluation part the recommended infrastructure management-process maturity model is approved through testing and using it in infrastructure management's domain and future work will perform validation through reviews of industry experts. It can be understood from the study that infrastructure management process maturity model aids the personnel of transaction development to benchmark and assess the work communications and processes maturity in the infrastructure domain of organizations. According to the study of Backlund, Chroner and Sundqvist (2014), various types of PM3 (project management maturity models) occur nowadays are most of them inspired by CMM (capability maturity model) evolved in the initiation of 90s intended originally to estimate capability in projects of software development. This study indicates that firms with a greater level of project management maturity are anticipated to be successful in project efficiency and

effectiveness terms and thus have a competitive benefit in the marketplace. Though many project management maturity models evolved during a time period of around 20 years, knowledge about how project management maturity models are used in firms is scarce within the literature of project management. This study describes how major construction and engineering firms view project management maturity and project management maturity models to improve and develop their practices of project management. These types of firms are object oriented and project intensive mainly and have the abilities to carry out overall initiatives of business development that is applicable for using project management maturity models.

The project management maturity model contribution to development and improvement of organization is not clear. Therefore a literature review pointed out varied perspectives in considering project management maturity models mainly for their strengths, weaknesses and purpose. To what degree project management maturity models are utilized, interviews have been organized with 7 participants within varied project intensive firms in their roles as in charge of project management development or project managers. How a project management maturity model is applied and introduced through in depth case study at leading mining firms in Sweden. Thus the outcomes reveal that the application of project management maturity models in Swedish construction and engineering firms are restricted representing that further study is required. It can be inferred from the study that project management must be used to estimate the capability and refer targets of improvement for firms desiring to develop the effectiveness of their project management to deliver projects in long term successfully.

Karim, Rahmin and Danuri (2014) conducted a study on developing the value management maturity model. The practices of value management have been extended and became a well acquired technology globally. Now organizations are advancing towards a better value management, implementation and must be assessing their weaknesses and strengths to move competitively further. There is a requirement to benchmark the existing practices of value management to reflect their levels of maturity which is presently not feasible. This study describes the value management maturity model concept as a structured plan of performance and maturity growth for business. It suggests 5 maturity levels and every level has its own attributes or criteria to be accomplished before advancing to a greater level.

The value management maturity model's framework has been evolved based on literature review associated with maturity models and value management. The data has been gathered using the questionnaire survey process for the firms that have implemented the methodology of virtual management. Additionally semi structured surveys were organized to choose individuals included in enforcing value management. The questions were evolved to accomplish the objectives of research examining the present implementation of value management and describing the maturity model practices and knowledge of organization. However this study was restricted to implement the value of management in government programs and projects of Malaysia. Value management introduces a new paradigm in value management as it offers a method of rating for performance or capabilities. It is advocated that this value management framework is refined in progressive step to offer a well approved and comprehensive process to offer ratings for maturity of organization. It can be inferred that the value management maturity model is very useful for organizations in many countries since it saves the expenditure of government and enhances the project completion speed.

According to the study of Nenni, Arnone, Boccardelli and Napolitano (2014) effectiveness of organization relies partly on the success of its projects. With this in mind most of the efforts have been invested in present decades to develop the culture of project, but outcomes are unsatisfactory highly. PMMMs (Project Management Maturity Models) are viewed both by industrial communities and academic as a solid instrument to accomplish this target. The point at issue is that researches and surveys reveal that project management maturity models must be linked better to financial and business performance. The aim of this study is to describe the improvement scope to develop project management maturity models as business oriented structures. It can be inferred from the study that project management maturity models indicate a solid answer to the needs of organization and it develops to perform better in assisting a firm to accomplish their business targets.

Soares and De Lemos Meira (2014) proposed a study on an agile PMMM for software firms. The agile methodologies have been applied in those firms which consist the maturity models of OPM3 (Organizational Project Management Maturity Model) or CMMI (Capability Maturity Model Integration). For this, there has been much controversy in the software sector and in the academic environment. The two methods evidently have certain major principles and varied bases, but on the other side adopting them jointly has highly become a reality of

software firms. However the rush to meet the levels of maturity within deadlines that are smaller and the definition of inflexible and heavy methods outcome in development projects with distinct objectives of adherence to such models always reflecting in undertaking unimportant activities and producing excessive documentation. In this study agile methodologies are much demanding as they are lighter and this is related to their evident providing rapid development at a reduced human effort cost. In this scenario this study describes an agile PMMM definition for software development firms. It can be found from the study that a maturity model provides assistance for project management based on relevant frameworks, validated method and models and on developing use of software development processes.

Matrane, Okar and Talea (2014) conducted an empirical investigation on the project management maturity in the small and medium scale enterprises in Morocco. In the present years several studies have concentrated on project maturity assessment. Some are based on the project management maturity. In this study the author targets to assess the project management maturity level in SMEs (small and medium sized enterprises) in Morocco. Therefore the author followed two processes. The first is a pilot test for a 4 medium sized enterprise in Morocco to decide the project management maturity level. The second is an empirical examination in small and medium sized enterprises in Morocco by using a survey based questionnaire of capability maturity model integration to demonstrate their capability in project management. In this study the author will explain the maturity model most reviewed in literature with a contrast study of varied models. To assess the maturity level of project management in small and medium enterprises in Morocco two approach results are presented by the author. It can be found from the study that PMMM is used in small and medium enterprises to help the firms to enforce the maturity easily in process of project management.

Spalek (2014) conducted a study on assessing PMM (project management maturity) in the area of knowledge management in the selected companies. The below figure shows the project management maturity model:



Figure 3.9 Project Management maturity Model Source: Grierconsulting.com

Project management is of greater importance for firms nowadays. This is of special concern for those firms which perform multi project surroundings. For them it is difficult to predict how better they are at handling projects. To that the end assessment of PMM) subject was evolved. However acquiring a picture of the firm is the first step. The second step is to examine the outcomes based on them to carry out proper activities in order to develop effectiveness in management of project. There are different assessments of project management maturity models in varied areas. In examining present trends of management the concept of knowledge management is one of the most essential one. Therefore in the view of author the modern model of project management maturity must mainly mention the area of knowledge management. In the following study which is based on the global empirical research consisting of 400 firms, the author has argued on the project management maturity level in context to the knowledge management area.

The assessment was performed using the project management maturity model of author which estimated maturity in 4 areas namely human resources, tools and methods, knowledge management and project surroundings. The examined firms were from construction, machinery and IT branches. The main effort of the study is focused on machinery sector as this economy field is not identified well in empirical study similar to PM. Moreover the major target of this study was to contrast foreign and polish firms through an investigation of different sector. The study outcomes showed that the foreign firms are at a greater project management maturity level in the area of knowledge management than their polish equivalent. This variation is argued in the study. Among the sectors the most matured was IT and this is

expanded on. Additionally this study reveals that the level of mean maturity of entire examined firms is rather little. The reason is that facts are described and the suggestions for the firms are highlighted. Thus, it can be inferred that the management of the project knowledge is an essential factor in an organization. This would result in gathering competitive benefit and reducing the time and budget. At the same time, this helps in developing the quality of the results.

Chapter (4)

LITERATURE REVIEW: MODEL AREA FACTORS AFFECTING MATURITY

Chapter 4. Literature Review: Model area factors affecting maturity

4.1 Introduction:

Nowadays organizations can accomplish success in business by maturing their performance of project management. This chapter identifies the factors affecting maturity of organization to manage projects. This study pointed out the factors which enhances firms to realize the advantages and accomplish satisfaction of stakeholder defining two leading success factor groups. This study has researched various studies on the factors affecting maturity and different models of project management maturity.

4.2 Factors affecting project management maturity:

Carlos (2008) proposed a study on uniformity of organizational culture variable and the project management institute i.e. organizational project management maturity model knowledge foundation. One factor that can essentially impact the capability of organization to handle projects is the project management practice maturity. The following study investigates how the project professionals combine the organizational cultural element in their PM maturity assessments. The author has noted that the element was not considered in the project management institute consisting of the project management maturity model. This makes an impact on the PM maturity of an organization. In performing so it argues organizational project management maturity model need and explains its evolution and growth it recognizes 3 factors that decide how well a firm can institute change permanently. Then it refers the case of author for developing organizational project management maturity model and the way in which firms assess their maturity of PM. It also describes the literature revealing how culture of organization impacts performance and evolution of organization and highlights the competing values structure a model which refers cultural styles of organization according to 4 dimensions namely market, clan, hierarchy and adhocracy. It can be understood from the study that the culture of organization shapes the approach of organization to enforce projects and develop performance

According to the study of Pesic (2009) BPMMM (Business process management maturity model) enhances as-is enterprise state description from the PMM perspective. The below figure shows the business process management maturity model:

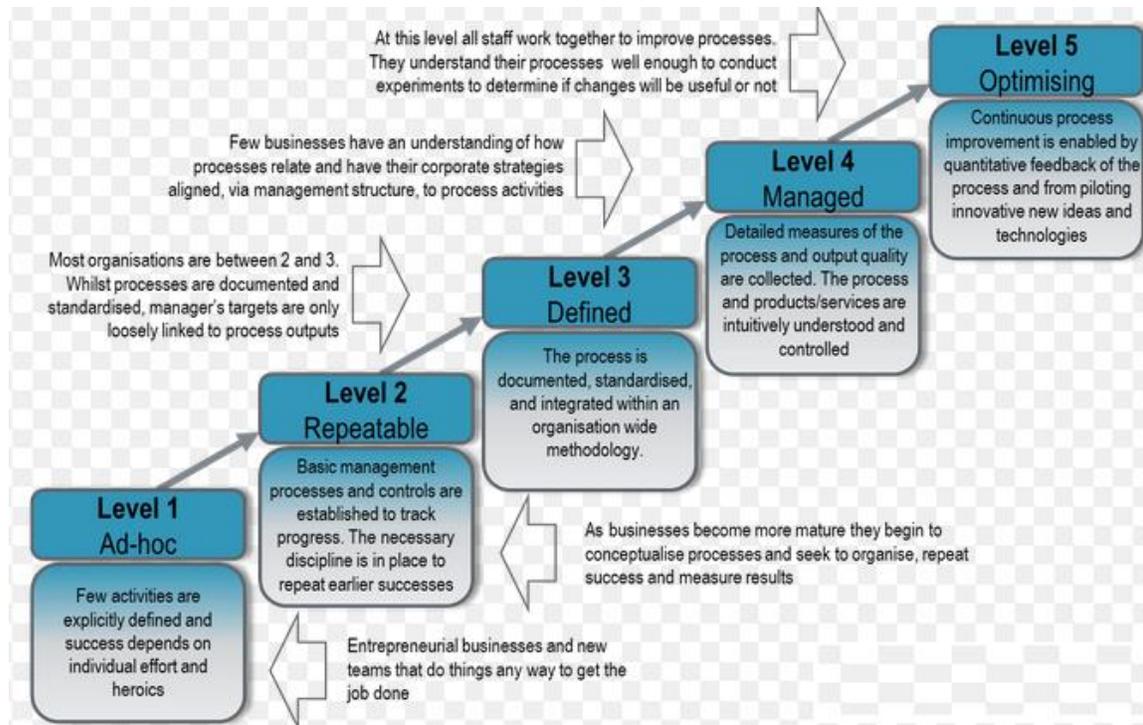


Figure 10 Business process management maturity model Source: Kitchenham, Pickard, Linkman, and Jones (2005, p.747-760)

In the heart of this model there are 5 levers or factors essential for successful implementation of BPM. These factors are process management, strategic alignment, technology and methods, business culture and employees. The highlighted factors impact the level or state of maturity of enterprise. The process management maturity level can be define, initial, quantitative management, management and continual development. When levers or factors of maturity are examined simultaneously with levels of maturity one can prepare 2 dimensional BPMMM. However concerning certain drawbacks of this model it is advisable to enhance it with 6 sigma methodology and philosophy. This model can be useful when an organization has to make determination concerning varied kinds of networks like strategic alliances or joint ventures. However BPMMM supports managers to make decision concerning franchising because success of franchising relies a big deal on enterprise maturity which indicates buyer of franchisee. Thus it can be inferred from the study that business process management maturity model supports managers to recognize the state in which organization is, take the initiative for

process management improvement or for meeting project management maturity at greater level.

Pasian (2011) conducted a study on project management maturity a critical analysis of existing and emergent contributing factors. This study inquires the reliable PM capability dynamics accountable for undefined projects and suggests new factors that could impact how PM maturity is modeled and determined. It describes that distinct practices and processes that are not predictable, controllable and repeatable tightly can grant to reliable management of electronic learning projects in university surroundings. A multi-method design of research is utilized with two qualitative methods namely model and textual analysis. Textual analysis of industry and maturity models of organization and a case study of two offices of university responsible for projects of electronic learning. Model analysis shows factors utilize for assessment of maturity that are not relied on process control. The output is a conceptual structure reflecting these factors along with properties representing reliability and instructional design methods. The data are gathered utilizing this instrument and examined to verify the components validity. Besides that, the results have highlighted the specific policies and values, specialized knowledge bodies, third party influence, involvement of the customers and the tacit factors like creativity, morale and trust. A clear way arouses of an alternative route to PM maturity. This inquiry underlines the value in querying a maturity definition that depends on major process control principle. It challenges the prescriptive orientation of present project management maturity models generation that codify some practices and processes leaving small room to value unexpected phenomena that might be contributing. Further study can construct on typological structure to critically investigate other types of project with undefined even changeable or contradictory need s that need flexible PM capabilities without sacrificing their reliability. The examination of these surroundings will make a much inclusive PM maturity definition and extend the situations that lead to mature capabilities of project management. This study contributes to the inquiry of providing specific and new factors integral to reliable PM capability related with handling an electronic learning project and challenges practitioners and researchers to recognize others. It can be found from the study that this study focuses on PMM as accomplished by universities who have utilized the electronic learning projects management to evolve their capability of project management.

According to the study of Christoph and Konrad (2014), PM maturity models offers a structure to measure the project management competencies of organization. The general premise in link with these models is that with a greater level of maturity the opportunities for a firm to finish its projects increase successfully. As it appears to be evident that professional PM (project management) is feasible below the greater level of maturity both professionals and academics have asked the query for an ideal level of maturity for some firms. Since each action of a firm to develop its level of maturity will be linked to certain cost this ideal level stands for an optimal investment ratio in a developed PM maturity and the advantages that result from this level of maturity. Certain study has been proposed in this sector specifically in the area of project management's ROI. The query on the basis of the parameters and factors needed to determine or impact the ideal level of maturity remains undecided. This needs further investigation. In this study the outcomes of several qualitative case studies with industrial enterprises are presented. The case research data represent a connection of advantages of a greater level of PM maturity to the extent of projects complexity carried out by firms. The project complexity drivers resulting from cases are introduced. Thus it can be concluded that the project complexity function towards the rapport between project success and project management maturity is studied in this research.

4.2.1 People:

Dahmann (2003) conducted a study on correlation between quality management metric and people capability maturity model. The software management quality in a project of development is a leading factor in deciding the project success. The four major areas in which a project manager of software can influence the results of a project are management of people, management of requirements, planning/estimation management and management of risk. People management is the area of management with the greatest impact on the success of project. In this study a QMM (quality management metric) was estimated with respect to its conformity with an established PCMM (People Capability maturity Model). The elements of survey of quality management metric were represented to methods explained in the model of maturity. The analysis represents a greater conformance level of quality management metric with people's capability maturity model. The outcomes of using quality management metric can be utilized to describe the software

management capability. Depending on the quality management metric survey, the elements are correlated with the maturity model processes. The outlines can be utilized to recognize these processes, based on which further development is needed so that the program becomes successful. As new models in software development management field develop, the quality management maturity will be required to re-estimate in respect to these new models. Thus it can be understood from the study that people capability maturity model is used as an excellent model of best practices for handling workforce of organization.

Palacios Mayoral and Berbis (2007) conducted a study on competency assessment integrating people CMM and COCOMO II for estimation improvement. Human factor is one of the most essential and relevant perspectives of software development project management. Targeting at improvement of performance for processes of software in firms a new model has been evolved to identify processes related to people. This new model is based on the capability maturity model and indicates the complementary solution for it. On the other side existing models of estimation in software engineering combine those perspectives perfected associated to personnel's general and technical competence but fails to combine performance and competence measurement instruments when it comes to decide the precise value for every factors involved in the process of estimation for personnel factors used in projects of software development. The factors considered in COCOMO II when seizing the influence of project surrounding in its cost are platform, product, personnel and project. To make an estimation based on engineering principles data must be reliable for every factor adequately. The combination of varied systems which a software project manager must use is an essential factor towards their complete leveraging. This study has concentrated in a small number of factors but the integration possibilities are infinite practically. In present business surroundings where IT manages the corporate resource management, transversal information leveraging is a chance which information technology staffs and manages must not waste if they are integrated to development of performance of business and the human capital development. People capability maturity model practices are essential to decide the values of every personal factor recognized in COCOMO II. This study presents suggestions for combination of every human factor associated metrics in COCOMO II with the tools of management proposed by people capability maturity model which are implemented vastly by existing commercial

components. It can be inferred from the study that the software estimations can be improved based on the conversion criteria specification between people capability maturity model and COCOMO II.

According to the study of Curtis, Hefley and Miller (2009) the P-CMM (People Capability Maturity Model) support firms to mention their essential issue of human capital successfully. The below figure shows the people capability maturity model:

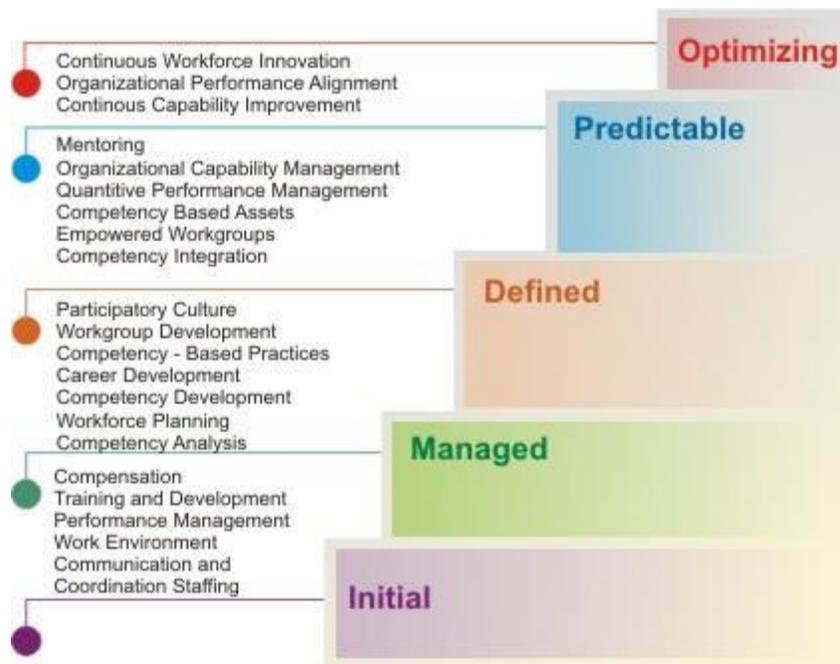


Figure 11 People Capability Maturity Model Source: qalglobalservices.com

The people capability maturity model engages a process maturity structure as a basis for best practices for handling and evolving workforce of an organization. Based on best practices in fields namely knowledge management, human resources and development of organization the people capability maturity model guides firms in developing their methods for developing and handling their workforce. The people capability maturity model supports firms to describe the maturity of their practices of human capital, set up a continuous workforce development program, combine development of workforce with process improvement, set priorities for actions of improvement and set up an excellence culture. This is because the establishment of the second version of people's capability maturity model is based on the usage of the model around the globe and is considered by the large and small firms in the market sectors and in several firms. Based on continuing experience and feedback this update people capability maturity model has been prepared.

This study documents an update to people capability maturity model second version which updates useful material within people capability maturity model and its sub practices offers new data learned from continuing worldwide utilization of people capability maturity model.

Toccoli and Muzio (2010) proposed a study on the concept of practice in people capability maturity model. This study is based on P-CMM (People Capability Maturity Model) application to the FBK (Foundation Bruno Kessler) a research centre resided in Trento. People capability maturity model is a structure to study the maturity level of a firm to develop the growth of workforce and to support management to refer capabilities of people in the firm. The project is an ongoing research. The aim of this study is to perceive how Foundation Bruno Kessler can change its practices to accomplish a greater maturity level in HR management that is according to model a managed level where the first step towards developing the workforce capability is to acquire managers to acquire activities of workforce as greater priority responsibilities of their work. It can be found from the study that the author will argue the suggestions deriving from the idea practice considered by the model with respect to the varied idea of practice which is intended to complement it.

4.2.2 Staffing:

According to the study of Kang (2009) evolving software for firms is a complex task because it must handle with people, technologies, business processes and organizations. Despite present progress in management and technology practices the software firms still endure from difficulties in management of software development. One of the difficulties in management of software development lies in staffing issues. In context to the staffing, the development of the teams of software project has become a major question for the software firms. This study examines the software project staffing issues. IT service firms offer the outsourcing services of software development to customers and the outsourcing agreement is made by a competitive process of bidding. This study comprises of three researches. In the first research the author examines what kind of knowledge among technology, domain and knowledge methodology is influential to software development performance. In the second research, the author has examined the kinds of professionals among the specialists who has focused and deep experiences in the specific domain.

Besides that, the generalists have been identified who have the experiences with a vast number of domains that are valuable in the software projects. In the third research the author solve the selection issue of software project of an IT service firm. The solutions and findings of the study offer managerial suggestions not only to staffing issues of project but also to other issues of organization such as development of knowledge, project selection and career development. Additionally both analytical and empirical aspects enhance them to offer a full fledged solution to the staffing issue of project. Similarly Nickson (2008) has mentioned that by nature bids include staff from across the complete breadth of the firm. The bid manager required to communicate with all specialists and will require knowing what their responsibilities and roles are, what they can and cannot be asked to deliver if the job is to be performed. If bid is big enough to merit a bid manager there is a better opportunity that it will require approval and assistance from senior management. Presentation have to be made at a senior level within client firm which reveals commitment if equally senior staff are accessible from the supplier.

Bayer, Gann and Salter (2006) proposed a study on balancing work based on workload dynamics and bidding strategies in a project based professional service firms. Project based professional service firms provide their services as tailored or one off projects for particular clients. The specific kind of their firm the character of their rapport with their clients essential to provide highly customized projects and non routine, creative work nature come together in a way which makes these service firms management demanding. Workload fluctuation is one of the common barriers. While this is influenced by changes in demand partly the external surroundings does not offer an extensive description and communication between project processes and business processes required to be investigated. In offering a generic description of the causes of assessment as well as workload fluctuation of varied strategies of bidding based on a model of system dynamics, this study intended to progress the theoretical understanding of project based professional service firm and mainly to offer components for its managers. Such a generic description needs a connection of project and organizational levels as their interplay decided the organization behavior. The description which is described in this study and their suggestions are based on the model of system dynamics integrating organization level structure for project acquisition with a model of project indicating execution of project. It can be understood from the study that the strategy

under which experienced staff bid performs best even though the rework level is greater than the bid group.

4.2.3 Training and Career Development:

According to Clackworthy (2010), an organization might select to use maturity model for varied reasons. These could involve offering evidence to develop competitiveness when bidding for offering services to a project, assessing the success of embedding and introducing MoV into the firm, perceiving the strengths and weaknesses better to develop performance and assessing the effectiveness of training and career development. Similarly, Haugan (2010) has mentioned that in the third level of maturity the firm uses a consistent standard process across enterprise and communicates and documents this process. This process can be developed to fit specific initiative. At third level people identify the value of tools, resources and training as facilitators of process. The firm may set up a process of business development team or an office of program management to coordinate and develop the procedures and process.

Mieritz, Gornolski and Light (2007) have described that a network of project portfolio program leaders occurs throughout the firm in a federated mode. Depending on the assignments of the project management, the promotion of jobs of the line management in operations was decided. For large firms effectiveness of resource management generally advantage from organizing staff into excellence centers better enhancing capacity planning. An excellence centre assures that technical staff has a chance for career and training development while a project manager is responsible directly for day to day work being carried out. The plans of training are developed for individual not just for the group. The plans of training are related to career development. Additionally a formal mentoring program is in place for entire program assignments and project managers. At level 5 in project maturity the mechanical problems about workload balancing and project assignments have been managed and the firm can now shift its focus to enhance individuals to exercise much control of their training and career development. Individuals can bid on assignments and connect their plans of career development to alert them to essential

assignments of project automatically. Every individual acquires some formal training every year to assure development of skills.

According to Cognizant (2012) White Paper each project is distinct and every project manager brings her or his distinct integration of skills, motivation, experiences and knowledge to it. However from the perspective of organization there is a requirement for greater quality project management practice consistently regardless of inherent differences in people and projects. An essential tool of satisfying this program and portfolio management requirement is efficiently enhancing upcoming projects. This in turn is relied on choosing right project manager since she or he will be liable for recruiting the remaining project team. However not each project requires the best project manager in the world. The key is to match the specific requirements of the project with proper applicant in terms of experience and skills. This is developed by lack of time as well as challenge of juggling the requirements of many projects at a time. Using a scorecard of project manager can essentially ease the task complexity. It not only matches the right applicant with the right project but also assures the best use of available resources. By clarifying both specific requirements of projects and relevant project manager's attributes it can contribute to organizational efficiency. The scorecard sets performance standards that can be used in hiring, training and career development thereby developing maturity of organization in project management.

4.2.4 Competency and Skills:

According to the study of Rendon (2006) the process of contract management is developing significantly as outsourcing continues to develop and suppliers become essential expansions of the capability and competency of the firm. Recent studies represent that firms are not handling the process of contract as the core competency that it is nor are they accomplishing strategic competitive advantage resulting from a mature process of contracting. These firms are facing protracted contract negotiation and development cycles, improper approvals of contract, restricted control and visibility of contract and the capability to assure compliance of supplier with terms of contract. The maturity models use have developed as a successful process for improving and measuring critical core

processes of organization. This study will describe about a case study on the application and development of CMMM (contract management maturity model) as a process for improving and assessing contract management process capability of the organization. It can be understood from the study that the assessing contract management competence and effectiveness and improving the process of contract management is becoming essential nowadays for a firm to maintain a competitive benefit.

Puri and Tiwari (2014) have mentioned that to assure the contractors quality the valuation can be performed beforehand with a prequalification process. Facing the scrutiny of owner considering its competency to manage the aspects of business operation during prequalification permits the contractor to concentrate on construction project specifics once it has passed through the method of prequalification and has been short listed. This also permits the bid evaluation team of owner to concentrate only on particular project elements without being distracted by the complete considerations of business. Prequalification is a before procedure of bidding which permits to select the most proper applicants from amongst those announcing desire to involve in tendering. Pre-qualification is the construction contractors screening to owners of project or their representatives according to a predetermined set of criteria deemed essential for successful performance of project to decide the competence of contractor or the capability to involve in bidding project. Pre-qualification means that the organization associated with the tendering needs to be skilled prior to the supply of the documents of bidding and submitting a proposal. Bid evaluation and prequalification procedures include varied criterion types to estimate the complete contractors suitability.

Holt and Perry (2011) have described that competence is an individual capability to perform something and it is an essential subject as several project tenders are now rewarded on capability basis. As part of the contract bidders will be asked not only to offer an overview of their solution but also will be asked to describe that they have the ability to provide that solution. One of the issues related with such an approach is that capability can be explained in a firm but to realize that capability it is essential to have staff with proper competence. Several big firms will bid for projects without having enough staff to undertake the work and then it will hire new staff once they have won the contract. Turner *et al* (2000) has mentioned that presently the government of UK has evolved its procedure

of internal project management PRINCE 2. This was designed originally for projects of information system but the 2nd edition was designed with a larger focus on business. The certification of PRINCE 2 is becoming compulsory to bid or several projects in both private and public sector in United Kingdom. In this way, the government is contributing not only in the development of the project competency in the public sector by capturing the best practices, but, also, increases the competency through the project management of the society.

Alaghbandrad, April, Forgues and Leonard (2015) proposed a study on BIM maturity assessment and certification in construction project team selection. All the participants of project must have reduced capabilities of BIM to implement building information modeling in a construction project successfully. Before the initiation of any project assessing capabilities of building information modeling of project stakeholders is a concern for clients in construction industry. The major issue of public clients considering building information modeling is that they have no process to assure that the major participants they recruit for a building information modeling project have the reduced capabilities to involve in delivery and design of the project. The greater difference of organizations readiness to perform with building information modeling may impose greater cost for client and other matured staffs of supply chain. Therefore the clients of construction industry requires a way to assure reduced building information modeling maturity of participant such as audit of maturity to assess competency of building information modeling of important team members of project. This study suggests a prototype that concentrates on organization capability in particular building information modeling uses while estimating their usual capabilities of BIM. The authors proposed a maturity model of BIM platform and experts of BIM discuss on possible developments. It is expected that by using this model the clients of construction sector may accomplish more benefits through the selection of building information and modeling the skilled members of project team.

4.2.5 Process:

Looy, Backer and Poela (2011) proposed a study on questioning the design of business process maturity models. The models of maturity have been developed to gradually

improve and assess processes of business. Although their purpose is to support firms the maturity models proliferation confuses firms. They have no review of existing models and their variations which makes an informed option inconvenient. Selecting the proper BPMM (business process maturity model) is however essential as previous study represented the existence of varied types of maturity being estimated by existing models. The author adds further elements of design to their comparative structure by organizing 69 business process maturity models content analysis. Afterwards the recognized elements of design are changed into a questionnaire that the practitioners can utilize to predict the business process maturity model that best fits their requirements. In this study the author presented 16 queries to be involved in the questionnaire without elaborating on the individual maturity models representation. Thus it can be inferred from the study that business process maturity models have been designed from which firms benefit to meet the excellence of business.

According to the study of Gorschek, Gomes, Petterson and Torkar (2011) the software product development area of software intensive products has acquired much attention in the area of product management and requirements engineering. Several firms are faced with new challenges when performing in surroundings where essential needs number in 10s of thousands or in thousands and where a product does not have a customer but several markets or customers. The development firm undertakes not only entire development costs but also acquire entire risks. In this surrounding traditional bespoke engineering of requirements together with improvement models and traditional process assessment fall small as they do not mention the unique challenges of a market driven surroundings. This study introduced the market driven requirement engineering process model targeted at enabling the process assurance and the process improvement for the firms facing these new challenges. The model is also validated in the firm through three case studies where the model is utilized for process improvement and assessment suggestion. Initial outcomes reveal that the model is proper for organization's process improvement performing in a market driven surroundings. Additionally the model was configured to be light weight of reduced cost and thus acquired not only for the big firms but applicable for SME as well. Thus it can be understood from the study that requirements engineering process generates better enough needs for successful product development.

Klimas (2011) conducted a study on extensive literature on BPM (business process management) recommends that firms could develop their overall performance by acquiring business process view. Hammer (2007) mentioned that in every industry virtually each industry entire size firms have accomplished outstanding developments in speed, cost, profitability, quality and other major areas by focusing on estimation and redesigning their internal and customer facing processes. In reality several things were required to be altered to harness the processes power. At the same time, this assures what is accurately required to be altered, when and how much. In this study a methodologically extended BPM framework of Hammer and its methodological implementation guidelines are provided. The below figure shows the Hammer Process and Enterprise Maturity Model:

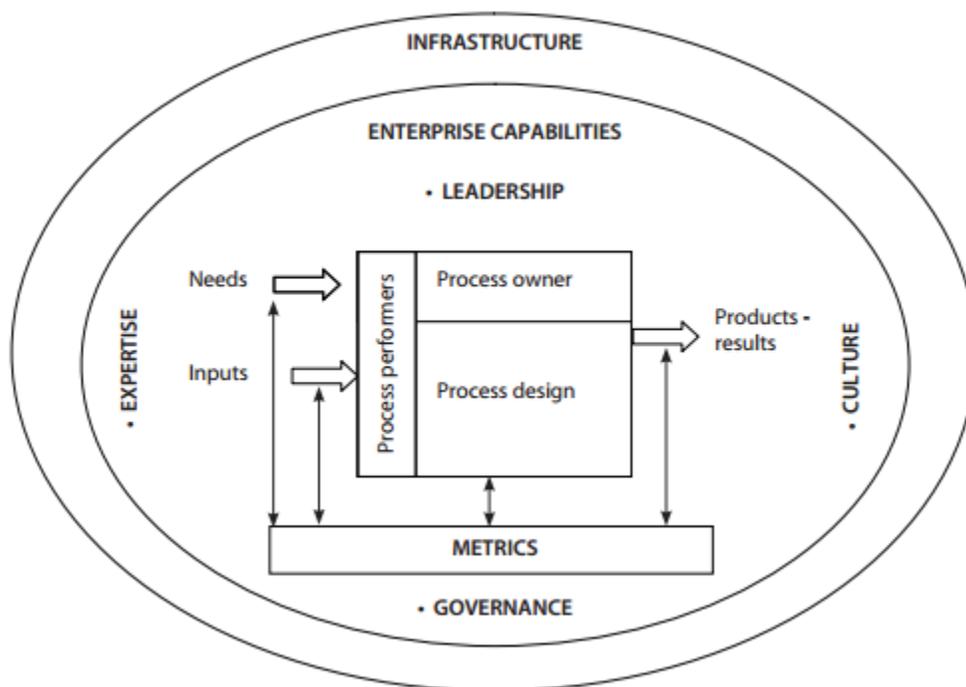


Figure 12 Hammer PEMMSource: Hammer, 2007

The developed structure serves as a diagnostic component for the recognition of organization process maturity model and to perform reasoned optimal developments which lead to a better overall performance of organization. Thus it can be understood from the study that the hammer process enterprise maturity model permits accurately and easily to decide the organization and its processes maturity level.

Helgesson, Host and Weynes (2012) conducted a study on a review of methods for evaluation of maturity models for the process improvement. The models of maturity are

utilized vastly in the improvement of the process. The maturity model users must be assured that the assessed processes weak points can be predicted and the most valuable modifications are introduced. Therefore the maturity models evaluation is an essential activity. In this study a representation literature study on maturity models evaluation is described. Two databases are browsed resulting in a group of relevant studies. The identified studies can be categorized according to six classifications namely under evaluation maturity model, evaluation types, relation of authors/evaluators to maturity model, objectivity level, study size and main study purpose. Further a structure of varied maturity models evaluation is evolved and similar papers are represented to the structure. Lastly the relevant study on maturity models evaluation in capability maturity model family is explained briefly. This mapping study result is a clear review of how the maturity models evaluation has been performed and certain discussions are offered for further study on evaluation of newly developed or commonly used models of maturity. It can be found from the study that different maturity models evaluation has been evolved and relevant studies are mapped to the structure according to their classified types of evaluation.

According to the study of Trasobares (2012) maturity models indicate an available approach towards assessing the business processes and recognizing their essential developments. Particularly the PEMM (Process and Enterprise Maturity Model) has attracted much attention since its establishment in 2007. However certain studies have describes its practical applicability. The big size of business processes recommends that assessing their maturity at a level of subprocess can help to uncover hidden inefficiencies and perceive many existing complexities exactly. Therefore this study purpose is to investigate the applicability degree of process and enterprise maturity model to an individual sub process. An action study of research was organized in the sub-process of organization at big organizations in Sweden. The collection of data entailed needs observations including managers and employees who were operating in sub-process. The outcomes represent that the process and enterprise maturity model was a useful structure for conducting an in-depth analysis of maturity and recognizing feasible developments which prove that the model was helpful to the studied sub-process. Thus it can be understood from the stud that process maturity models have been utilized as a tool of

evaluation for assessing the business processes maturity and recognizing their essential development ways.

4.2.6 Policy/Procedure:

According to PMP (2003) the selection of source evaluates and weighs the bids, quotes and proposals for the procured parts of the project and then makes a determination as to which seller is the best for the work of project. The selection of source has policies of organization as inputs for the process of decision making. The performing firms probably have procurement procedures and policies which the project manager is expected to follow in regard to selection of source. The policies of organization must be known before initiating the process of source selection to avoid any interest conflicts, discrepancies, or other policy breaches.

According to PPIMS (2015), the PEP is the major document for project management. It is a statement of procedures and policies referred by the project manager for approval of project director/project sponsor. It sets out in a structured manner the project objectives, scope, communication plan, milestones, procedures of project change control and other major information of the project. This process includes applying the plan of project management into action. The project manager will direct and coordinate resources of project assuring the objectives and goals of the project are accomplished. During this method, approved modifications are implemented and most of the resources of project are used. The purpose of the project execution plan is to assure that consulting services and publicly funded firms are obtained using a process that is fair, transparent and open.

4.2.7 Communication:

According to Beynon (2007) in the capability maturity model integration, the requirement development purpose is to analyze and generate product, customer and product tool needs. The description of this process area for development of business is to perceive and have an influence on needs of customers. The focus of RD is mainly on the external prospective customer. Superior business development firms will offer input to bid specification of a

customer by continual communication with customer considering its requirements and the product development activities of the enterprise. Similarly according to Infor (2010) having the capability to pass exact brief information of product back and forth easily to their suppliers is an essential factor in the success of project. Communicating the revisions of document to suppliers directly from manufacturing and engineering provides firms the confidence that their suppliers offer exact cost and lead time data so that they can decide whether to bid the job. Few systems of technology offer these abilities involving the ability to perform rough cut planning at a level of the project before constructing the material bill. The organization can make a rapid formal no bid or bid decision without investing time to establish details. Then they can pass actual buying orders to suppliers directly after post bid and match the actual estimates offering a direct link to the project. According to Aberdeen Group (2008) the outcome is one project specific solution to assist collaboration of supplier across entire business areas. If the organization can continuously communicate any modifications to their customers during the process of bid and throughout the project and highlight the cost effect of any plan modifications using up to the minute data then they can offer their customer with realistic expectations. Some systems offer this capability involving one that sends immediate proactive alerts as soon as issues are probable to exist. In this way organizations can easily communicate with customer and gain their approval to initiate. The advantage from this is that organizations can enhance satisfaction of customer and a chance to succeed future business.

4.2.8 Tools:

Coscia et al (2000) has mentioned that the bidding tool provides bidding organizations functionality of decision support to plan, create and control a bid project, search and browse in repository for similar bids, reuse past bid documents parts automatically produce a new one, evaluate the execution plans and costs, estimate risks and refer an optimal price of bidding, vet, check and quality assure documents generated, self assess the bid made by using the criteria of evaluation defined by the tendering firm. Online negotiation tool assists the tendering organization in using the functionality of bid evaluation and the bidding organizations in using functionality of bid self assessment and price/cost estimation. It

permits a tendering firm to open an online acquired bid through screen sharing processes and to close an online bid by issuing the last result of the web. Active workflow tool is another tool of bidding which involves three major tools namely bidding workflow, inter organizational workflow and tendering workflow. The first two tools assist flows of information, synchronizes and coordinates all tasks which takes place within a bidding firm. The inter organization workflow assists the flows of information, synchronization group and coordination across bidding and tendering organizations.

Shane and Busch (2011) conducted a study on project management tools for design bid build mega projects. Complex and big projects of transportation have been delivered presently using alternative methods of project delivery such as through public private partnerships or design build. This trend has led to the idea that traditional project delivery of design bid build is no longer similar to projects with excess values of \$100 million. This study reports the two case studies findings of big projects in Oklahoma and Connecticut that were delivered successfully using traditional processes. It predicts that in order to handle the complexity related to finishing the construction and design of the leading projects, project managers evolve particular tools to match with every project's public relations, political relations and context of the environment. The study infers that early identification of the requirement to extend the role of project manager outside the technical realm of routine cost schedule an early project delivery strategy implementation involved tools to manage with those context problems that will affect the last design and the construction plan was the key to the success of every project. Lastly this study presents how these observations required to be incorporated into organizations curriculum.

According to Pro-Core (2015) Pro-core construction PM software permits firms to solicit bids based on bidding contracts and documents prepared in the brief phase of design of a construction project. Subcontractors can download packages of bid from Pro-core and offer bids that quantify their project contribution in terms of productivity rates, material quantities, wage ratios, worker hours, indirect costs, overheads and material dollars. Pro-core project management software handles the documents easily that makes up a bid packet. The documents of the bid can be any format involving specs, plans, file types and PDFs from other software packages of construction such as spreadsheets or CAD applications. Once the documents have been uploaded to documents of pro-core tool they

can be involved in any bid packet. Pro-core helps firms to set up an extensive history of bidding for every bid packet and project. All electronic mails are attached automatically to a record of the vendor within the tool of pro-core bidding. Pro-core project management software tracks the changes related with every item of bidding so that it is simple to know which user of Pro-core did when and what that action was carried out. Pro-core automatically creates a complete history of bid for every vendor at the end of each process of bidding. The pro-core bidding tool is designed to be simple to use so that subcontractors can respond rapidly to solicitations of bid. Pro-core tool of bidding saves each sheet of bid in PDF format so that vendors can print out the documents and involve them in their offline processes of business if essential. Similarly according to INI (2012) relying on the kind of agreement and purchase, the no bid/bid decision can be quite direct or may take certain consideration balancing a group of points for and against. To support the process it is helpful to have a steady process in place to assure that money and time are not invested wastefully on opportunities of the contract which are to no strategic or economic advantage. A no bid/standard bid form can be a helpful tool to support with the decision. Similarly according to BN Products (2015) HardDollar is an enterprise level construction evaluating software that is a complete system of project management and regards high dollar and civil projects. This software designs the process of making the big and tracking it in such a way that decreases mistakes. Estimate Master is another bidding tool which is familiar for its brief database and features of automatic saving which permits users to pull in previous data when undertaking new bids. SmartBidNet is a private web based construction bid management process based on web for general contractors that maintains online data and is accessible through tablet, mobile device or personal computer.

4.2.9 Environment/culture:

Cui and Hastak (2006) has mentioned that one of the essential factors in dynamical learning process involves the adjustment and control of strategies of bidding based on external environment, past experience and objectives of the business. Social systems particularly the business firms have the ability to alter their strategies and structure through learning and adaptations, This capability to study from external or internal environment gives

business firms a steady readiness state for change and sustains regular development. Learning in bidding exists in a competitive environment where the behavior of one contractor would influence the decision of another contractor. When one contractor study and develops her or his altered behavior drives other contractors to develop and learn. Therefore studying in competitive bidding is a MAS where an agent is the unit that can change and study its behavior. Competitive relation among the units of learning comprises the basis of adaptive bidding system. When a contractor believes that the environment of business is static relatively and other bidders continue their strategies by following the process of first order learning.

Rad and Anantatmula (2010) have mentioned that the environment of the project team, environments, and their projects are varied in several ways and so are the people who perform on those projects. The culture of the organization, the project personnel behavior and the attitude of the team towards the project will be varied for every project. The environment of the project will be varied relying on whether the project is funded externally or internally and whether the project is service oriented or deliverable based. The contract type will change the environment of the project. Additionally variability can be affected by the position of market in the firm whether the team locates in a proposing firm, a performing firm, subcontractor firm or contractor firm. An externally funded project is won as part of the process of bidding during which performing organization is deemed to be most responsive and qualified among those who submitted proposals for this project. Similarly internally funded project is authorized through a process of selection whose mission is to fund the most promising project strategically.

Teucher (2012) proposed a study on the impact of organizational culture differences on bidder and share values of target companies following announcement of merger with respect to stock market perspective in Sydney. Following the acquisition of cultural risk assets and cultural distance the author examines the effect of organizational cultural differences among merging firms on their small term stock performance following announcement of merger. The author regard that on declaration the market cannot access company's brief data of organizational culture that is inefficient and concentrates on its exposure hazard. Using available public data prior to announcement of merger the author built organizational culture differences among merging firms and a proxy of a factor

resolving cultural risk acquisition. Moreover the market costs as a factor resolving the cultural risk acquisition rather than specific organizational culture differences magnitude. The outcomes are period controls and robust to size.

Similarly Low, Abdul-Rahman and Zakaria (2015) proposed a study on the impact of organizational culture on international bidding decisions based on the context of Malaysia. With the rapid globalization and urbanization developing nations contractors initiate to venture abroad. These contractors are exposed to different types of risks particularly external risks. Although it is known well that the culture of organization has influence on decisions the impact of organizational culture on decisions of international bidding in construction to date is under study. This study describes the rapport between international bidding decisions and organizational culture in response to economic and political hazards of international contractors of Malaysia. A conceptual model of culture decision was tested and suggested using the survey of questionnaire and interpreted through interviews further. Strategy and goal orientation contribute larger impact on decisions of political risk. On the other hand, guanxi and goal orientations cast the larger impact on decisions of economic risk followed by values capability orientations and involvement. This study predicted that the culture of organization casts the impact on decisions of international bidding yet it is not the major cause particularly in decisions of risk.

4.2.10 Organization:

The study of Aubry, Hobbs and Thuillier (2007) presented a theoretical study contribution of organizational project management and of the office of project management. The project management office must no longer be regarded a separated island within a firm. It is their premise that the project management office is a kind of network of complex relations that links projects, structures and strategy and thus is a entry point into the firm to learn the basis of organizational project management. The author discusses that the study of such complex rapport within a firm must turn away from traditional positivist approach to a new conceptual structure. The proposed theoretical structure draws from three fields of complementary namely organizational theory, innovation and sociology to comprise a creative understanding of project management office and OPM. Thus it can be understood

from the study that organizational project management opens the way for managing projects to become a sphere within the organization and management theory.

According to the study of Vergopia (2008) several organizations utilize PMMM to develop their performance of project. These sequential and systematic structures are configured to support firms quantify their maturity of project management and develop their processes of project management. However these models rarely put enough emphasis on reviews of project as tools to develop the performance of project because the reviews of project are regarded as non productive administrative methods. Lack of emphasis on reviews of project in PMMM is described by little number of studies issued on the rapport between project performance and project reviews. Based on the PMMM concept this study provides a review of project maturity model utilized to estimate the maturity of project review for 4 kinds of reviews as well as overall maturity of project review. Additionally this study set up the quantitative rapport between performance of project and maturity of project review. The following study also measures the project review performance concept and its rapport with performance of project for entire 4 kinds of reviews as well as for the overall performance of project review. Lastly this study offers barriers, enablers and good practices for efficient reviews based on the responses of observations and written interview queries from a post mortem overview meeting at a highly professional firm. The organizational project management maturity model enhances firms to assess their maturity degree in project management of organization, evolve a plan for development based on results of assessment, organizational strategic resources and priorities and enforce the plan over time to meet the required capabilities and move further on the way of organizational project management. Thus it can be understood from the study that this study reveals positive rapport between project review performance and maturity with performance of project and to offer quantifiable outcomes for firms to further develop their processes of review.

Li, Bai, Feng and Guo (2010) proposed a study on the application of organizational project management maturity model based on BP Neural Network. The objective of this study is to present an approach to apply the organizational project management maturity model to assess capability of organizational project management effectively. Assessment index systems are put forward based on BP neural network assessment model and organizational project management maturity model is built. Model is validated and trained through

simulation of computer by Matlab software. The outcomes reveal that the proposed approach can acquire exact and objective assessment.

According to the study of Carlos (2012) the PMI (project management institute) issued a new standard for project management concentrated on level of organization. This presently evolved standard the OPM3 (Organizational project management maturity model) provides a systematic and disciplined ways for firms to meet a greater project maturity level based on comprehensive number of OPM best practices. Organizational project management maturity model enclose 3 usual elements namely: 1) assessment presenting a method with which to reward the firm against the standard, 2) knowledge mentioning the standard content; and 3) improvement preparing the stage for feasible changes in organization. However this last standard element of improvement presents a leading challenge because people consists of package of preferences, values, artifacts and attitudes which also comprise the culture of organization. Organizational project management maturity model does not presently regard culture of organization as a model part. This study describes the chance of combining culture of organization with this de factor standard and examines any correlations between them. The outcomes of the study described qualitatively any rapport between the four types of organizational culture (clan, adhocracy, hierarchy and market) of organizational project management maturity model improvement path and maturity Continuum and OCAI. These results of quantitative approach were ensured through the tests of Fisher Exact which was carried out for every statement of hypotheses.

De Oliveira and De Muylder (2012) conducted a study on value creation from organizational project management a case study in a government agency. This study targets to examine through a case study based on work construct of Mulally and Thomas (2008) known as researching the value of project management the relations of constructs of this conceptual model and to reveal how they intervene with values of organization possibly in programs organized by an agency of government from the prospect of senior management involved directly. The gathered information analysis represented that the project management has brought value to firm but the entire tools of the conceptual model were not understood. Additionally differences between participants from inside and outside of this department become obvious indicating a variation in interests of stakeholders. Lastly from institutional isomorphism prospect the author searched for proof of an effort to

develop the management maturity of organization in project management represented by documents the coercive and mimetic isomorphism to assure the accomplishment of targets and financial projects efficiency analyzed. Thus it can be understood from the study that the value creation of the organization from the project management deepens and improves the subject knowledge by replicating research methodology.

4.2.11 Management:

Lowe and Leiringer (2008) have described that the management of bid was viewed as a part of the commercial manager role in the aerospace/defence sector whereas there was a tendency in telecoms and constructions/ICT to view management of bid much as a support function. Lowe (2013) stated that the management of bid is an essential part of commercial role. Commercial practitioners involve or lead in multifunctional teams of bid along with customer relationship managers, bid/proposal managers, representatives from technical/design authority and implementation/project managers where essential support from treasury/taxation, business managers, legal and procurement functions.

Smyth (2014) has mentioned that the management of bid develops tactical plans. Client needs teams of project recognize and this commitment and resource purpose intensifies at this stage beyond the cost of applying the bid together. It was mentioned to be critical to commit resources even though business development management maintains senior operations and management informed of the project pipeline. At the stage of bid the managers of bid have specific ways of performing things and therefore there is no systematic way of managing bids thus this renders interface with procurement, project managers and BDM much problematic.

Liu (2015) conducted a study on multi agent system of project bidding management simulation. This study presents a model of simulation based on general structure of MAS (multi agent system) that can be used to examine the bidding process of construction projects. Specifically it can be used to examine varied strategies in management of project bidding from perspective of general contractor. The effectiveness of the studied management strategies is estimated by the time, cost and quality of bidding activities. As an implementation of multi agent systems theory this study is expected to verify the multi

agent system in studying construction management related issues. Du and El-Gafy (2014) has mentioned that the inefficiency root cause is lack of understanding about proper strategies of management. One instance is the goal congruence where the estimating team may make the proposed design economy its major priority while for team of engineering robustness is much essential. Such perception differences may lead to wholly varied practice. In order to develop the effectiveness and efficiency of bidding process it is essential for contractors to perceive the consequences of varied approaches and strategies of management. It includes the optimization of several projects namely the meetings and job assignment strategies. Several existing efforts focus only a single perspective of human behavior pertaining to management of bidding regarding that a core examination on an individual perspective will lead to better discovery. The rationale of concentrating on one essential point is well identified by this study particularly the difficulties of conceptualizing behaviors of human and validating assumptions. Nonetheless the significance of stating as several similar behaviors as possible in similar examination must not be overlooked purposefully when the interaction among different behaviors plays an essential role in perceiving how goals are affected and formed and how goal congruence effects the quality and efficacy of proposal development.. Thus in this study the behaviors of worker pertaining to bidding were collected seized and examined to quantify the effect of varied strategies of management on the bidding management performance of a general contractor.

4.2.12 Structure:

According to Damster and Tassiopoulos (2005) the structure of bidding organization must match the wide work areas essential assuring that responsibility areas are defined clearly, leaving no chance for confusion or overlap and permitting total accountability for finishing every task. The wide activity blocks will alter as the process of bidding develops from preparation of plan to submission of document and then to individuals lobbying who will make the ultimate option. The bidding entity structure must be configured as an adaptable team so that it may respond to and develop as an outcome of this altering work or activity sequences through the process of bidding.

According to PMBook (2015) the bidding process basic structure comprises of the formulation of brief specifications and plans of a facility based on needs and objectives of the owner and the invitation of skilled contractors to bid for the right to carry out the project. The skilled contractor calls for a minimal proof of financial stability and previous experience. The owner has a substantial latitude in choosing the bidders in private sector ranging from open rivalry to limitation of bidders to a few favored contractors. The norms are delineated carefully to place the entire skilled contractors on a similar footing for rivalry in public sector and enforced to prevent collusion strictly among contractors and illegal or unethical actions by public officials.

There are several possible differences for the bidding process structure but one major option is between a sealed and open format of bid. In sealed formats of bid bids are provided by bidders independently. Open formats create a chance for the transparent cost discovery. An open format is much probable to be valuable when bids of bidders are relied on something uncertain and therefore they can view from other's behavior in open format whether their own evaluation seems to be contrasting to their rivalries. Open formats may help in developing the rivalry and may also help in avoiding the curse of winner where a bidder is successfully based on an essentially overoptimistic evaluation of profitability of project. Open formats may create opportunities for collusion between participants.

Bids are differentiated and then bind on successful bidders. Bidders have a chance to react to behavior of other bidder and adapt their bids during the process in open formats.

Chapter (5)

RESEARCH

METHODOLOGY

Chapter 5. Research Methodology

5.1 Introduction

Babbie (2007) portrays that the methodology is the methods or techniques for doing something. Marrais et al (2004) characterizes that the methodology is of emulating the steps, methods and techniques for social event and examining the information in a practical examination. These techniques portray the detail data on how the study was taken. As indicated by Denscombe & Martyn (2007), research approach incorporates the configuration, setting, sample, methodological impediments and the information accumulation and investigation systems in a study. This is the knowledge of the investigative systems and methods utilized to get legitimate information. Strategy and exploration outline coordinates the investigator in arranging and actualizing the study in a manner that is destined to attain to the proposed objective. It is a guideline for leading the study (Kemple & Mary 2000). This section portrays the examination outline and system, including sampling and information gathering and investigation.

5.2 Steps of study

According to Toddy and Roy (1999), the vital steps included in leading a verifiable examination are as per the following:

Distinguish a topic and formulate the problem: According to Borg, "In historical exploration, it is particularly essential that the understudy precisely characterizes investigator's issue and evaluates its suitability before submitting himself/herself too completely. Numerous issues are not versatile to historical exploration systems and cannot be treated enough utilizing this methodology. Different issues have next to zero possibility of delivering critical results either because of the absence of relevant information or on the grounds that the issue is an unimportant one."

Look for sources of data: Historical examination is not observational in that it does exclude direct perception of occasions or persons. Here, the investigator translates past occasions on the premise of follow-ups that they have cleared out. The investigator utilizes the confirmation

of past acts and feelings. Subsequently, he or she does not utilize their own perceptions but, depends on the other individual people. The investigator's occupation here is to test the truthfulness of the reports of other individual's perceptions. These perceptions are acquired from a few data sources of verifiable information.

Assessment of the historical sources: The information of recorded sources is liable to two sorts of assessment. These two sorts are:

- (i) Internal assessment or feedback and,
- (ii) External assessment or feedback.

Examination, synthesis, summarizing and interpretation of data: The examination must figure out how to take notes as well as figure out how to sort out the different notes, note cards, list of sources and memoranda in order to determine valuable and significant certainties for understanding. Thus before starting an authentic examination, the investigator must have a particular and methodical arrangement for the procurement, association, information storage and recovery of the information. After that, a few proposal were considered which may assist the investigators in systematizing the exploration endeavours.

The same set of steps is followed in the present study. The investigator has followed the above steps in formulating the study.

5.3 Research paradigm

From Brady and Mary (2008) an exploration paradigm is a dynamical exploratory framework including the apparent values by associate researchers, led by related reference, perseverance and natural learned qualities. Perceiving a creating examination paradigm and assessing changes in a happening standard have been a difficult and challenging activity because of the intricacy and scale included. Paradigm is divided into two classes by name (1) Positivism and (2) Interpretivism (Morris, 2006).

Saunders, Lewis and Thornhill (2007) characterized that positivism implies logical and positivist strategies are conceivable and attractive to study social conduct in routes like those utilized by regular researchers to study conduct in the common world. Positivism is said to be the supporting philosophy of test and study research approaches, however in clarifying it along

these lines there is a conflation between social ways to investigative methodologies and the particular positivism position. Interpretivism is the investigation of elucidation. Typically the interpretivism word is connected to composed records clarification and in this way be more especially defined as the study of creator's language understanding.

This study is an interpretivism one that is qualitative in nature. The investigator makes use of various analyses before ending the conclusion about the methodology.

The literature review of the study is taken into consideration for choosing the study research methods. Project management maturity model is the main concept in developing many projects. This study follows the case study research design as the research methodology to find the solutions and recommend the strategies.

Fundamentally, a case investigation is an inside and outside investigation of a specific circumstance as opposed to a clearing measurable review. It is a system used to slender down an exceptionally wide field of exploration into one effortlessly researchable point. The case analysis examination configuration is likewise helpful for testing whether logical hypothesis and models really work in this present reality. As indicated by Dooley & David (2001), a case study outline needs to be considered when: (a) the center of the study is to reply "how" what's more "why" inquiries; (b) you can't control the conduct of those included in the study; (c) you need to cover logical conditions in light of the fact that you accept they are important to the circumstance under study; or (d) the limits are not clear between the circumstance and setting. The present study uses the various case methods for the successful project maturity model. The investigator uses the case studies of various firms that used maturity model in their operation and from those cases, the study will be able to know the suggestions recommendations and the strategies for developing a strong and proper maturity model for the firms.

5.4 Research approach

As indicated by Monaghan and Hartman, there are four noteworthy ways to the investigation of an issue or research:

Qualitative approach: This is the thing that most people consider history: the quest for a story gathered from a scope of composed or printed witness. The final history is composed sequentially and displayed as a true story: a story of an individual who made perusing reading material, for example, a memoir of William Holmes McGuffey (Vogt & Paul 2001) or the

Lindley Murray family (Glicken & Morley 2002) in the Western connection. The data sources of qualitative history range from compositions, for example, record books, school records, letters, journals and diaries to engravings for example, course readings, kid's school books, diaries, and various books of the period under reflection.

Quantitative approach: Here, as relatively depending on "history by citation," as the previous methodology has been contrarily called, investigators purposefully search for confirmation that fits being numbered and that is hence assumed to have predominant legitimacy and generalize ability. Investigators have tried to calculate the prominence of a specific book by organizing the numbers printed, by means of copyright records. The suspicion is that more extensive inquiries, for example, the relationship in the middle of training and political framework in India or in the middle of course readings and their impact on kids can in this manner be tended more definitively.

Content analysis: Here, the content itself is the aim and focus of the examination. This methodology uses distributed fills as its information (because of history of reading material, these may be peruses, or illustrations of the changing substance of school course readings in progressive versions) subjects them to a cautious investigation that normally incorporates both quantitative and subjective angles. Content investigation has been especially valuable in examining builds, for example, caste, race and so on.

Oral history: Subjective, quantitative, and content methodologies use composed or printed content as their database. Conversely, the fourth approach, oral history, follows the living memory. For example, oral researchers inspired by the education of women could get some information about their initial encounters and endeavors in education of women (David & Gray 2004).

These four methodologies are not, obviously, fundamentally unrelated. For sure, historical researchers benefit themselves of the same number of these as their inquiry, subject and time period availability. This assortment is conceivable because the way of historical exploration cuts over an assortment of methodologies, all of which begin with the distinguished point and the surrounding of an inquiry. At the end of the day, a verifiable study may be quantitative in nature, subjective in nature or a composition of both the methodologies.

The present study uses the qualitative research method that follows the subjective method of analysis. As indicated by Bryman, Stephen and Campo (1996) qualitative examination includes

the social event of experimental materials, for example, meeting, individual experience, biography, contextual analysis, observational, historical analysis, visual writings and interactional writings that describes tricky and routine significance and minutes in the life of a single person. It is additionally the way of knowing in which an examiner gathers, deciphers and arranges the data obtained from human utilizing her or his eyes and ears as channels. It generally incorporates top to bottom perceptions and/or meetings of people in social and characteristic settings. It can be stood out from quantitative examination, which depends intensely on measurable examinations theory testing circumstances and results. Subjective is the proper methodology when anybody needs to depict and comprehend cooperation or involvement in its own right as opposed to clarify it as far as free variables.

5.5 Research design

Bostock and Stephen (2005) said that a research design is a group of development choices that formulates the expert arrangement, the detailing strategies and systems for gathering and examining the required data. Research design is a coherent structure which gives a consistent flow that aides the investigator to address the research issues and answer the examination questions. It is a standout method amongst the most vital segments of examination technique. Research design is not just a subtle element sort of exploration configuration to be actualized however, incorporates the way to calculate the variables and gather information from respondents, formulates a procedure to sample members to be contemplated and arrange how the information will be examined. These methodological choices are explained and evaluated by sort of examination configuration chosen by the investigator (Festinger, 2010). A research design is a significant and specific issue that includes the concern of the below factors:

- The method for acquiring data;
- The accessibility and abilities of the researcher and his staff,
- The goal of the issue to be considered;
- The nature of the issue to be concentrated on and
- The accessibility of money and time for the exploration work

5.5.1 Historical research design

Redish and Janice (2005) explains that history generally explains to a record the past of human social views. It is the investigation of what "can be known... (to the person who studies normally historian) by means existing record." Gottschalk explained the historical method is the 'history as record', the author further expressed that "The procedure of basically evaluating and examining the records and survivals of the past is called historical technique. The innovative remaking of the past from the information inferred by that process is called historiography (the written work of history)". Historical research has been characterized as the methodical and target location, assessment and creation of proof to secure truths and make inferences about past occasions. It includes a discriminating inquiry of a past age with the point of reproducing a devoted representation of the past. In historical examination, the investigator studies sources and different documents that contain actualities concerning the exploration subject with the goal of attaining to better understanding of present strategies, practices issues.

According to Miller *et al* (2002), a historical research can serve the researcher and his/her study in the following ways:

1. It empowers educationists to discover answers for contemporary issues, which is rooted previously. I.e. it fills the need of achieving changes in the education sector. The work of an authentic investigator at times, the time teaches to follow shameful or confused practices in the past, which may have unknowingly proceeded into the present and the change will be continued. Historical researcher thinks about the past with a disengaged view point and with no sense of self-inclusion with the past practices. Subsequently it could be less demanding for educationists to recognize confused practices consequently empowering them to realize changes.
2. It tosses light on the present patterns and can help in anticipating future patterns. We can anticipate how the researchers will act for the problem in future if we see how the educationalists or group of them acted previously. Essentially,

considering the past empowers the examiner comprehends the variables/ reasons influencing present patterns. To make such future expectations solid and dependable, the authentic investigator needs to recognize and visibly depict which courses the past contrasts from the present setting and how the present social, monetary and political circumstances and approaches could have an effect on the present and what's to come.

3. It empowers an investigator to re-asses information in connection to choose theories, speculations and hypothesis that are from the past but held presently.
4. It stresses and examines the relative criticalness and the impact of the different collaborations in the predominating societies.
5. It empowers us to see how and why instructive speculations and practices are created.

5.5.2 Experimental research design

The experimental technique in research is the application and adjustment of the established strategy for experimentation. It is a deductively refined strategy. It gives a technique for examination to determine the fundamental connections among phenomena under controlled situation or, just, to distinguish the situations basic happening of a given circumstance. Experimental exploration is the depiction and investigation of what will be, or what will happen under deliberately controlled conditions.

Experimenters control certain motivations, environmental condition, or treatments and watch how the condition or conduct of the subject is influenced or modified. Such controls are intentional and methodical. The investigators must be mindful of different elements that could affect the result and uproot or control them in such a way, in a point that it will make a sensible relationship between controlled variables and observed components. Experimental exploration gives a technique for speculation testing. Theory is the heart of the experimental exploration. After the experimenter characterizes an issue, he/she needs

to propose an experimental answer to the issue or theory. Further, he/she needs to test the theory and affirm or disconfirm it. Experimental outline is the diagram of the methodology that empowers the investigator to test speculations by arriving at legitimate decisions about connections in the middle of dependent and independent variables (Powell *et al* 2002).

Therefore, it gives the investigator a chance to the examination as needed in the speculations of the analysis and empowers the investigator to make a significant understanding of the consequences of the study. The plans manage pragmatic issues connected with the experimentation, for example, (i) how subjects are to be chosen for exploratory and control groups, (ii) the courses through which variables are to be controlled and directed, (iii) the routes in which incidental variables are to be controlled, how perceptions are to be made and (iv) the kind of factual examination to be utilized.

5.5.3 Non-experimental research design

Neuman and Lawrence (2006) clarifies that quantitative examination is observational, utilizing numeric and quantifiable information. Conclusions are in view of experimentation and on goal and deliberate perceptions. Quantitative research may be differentiated into two general classifications: test and non-experimental. The vital components of experimental exploration, which was examined in point of interest in the past section, are introduced here first as a difference to non-experimental examination. An essential objective for experimental examination is to give solid confirmation to circumstances and end result connections. This is carried out by showing that controls of no less than one variable, called the independent variable (IV), produce distinctive results in an alternate variable, called the dependent variable (DV). An experimental study includes no less than one IV that is controlled or directed by the investigator, irregular task to distinctive treatment conditions, and the estimation of some DV after the treatments are connected.

The present study follows the exploratory research design. Festinger (2010) characterized that exploratory examination configuration is regularly led when the investigator sense a prerequisite for promoting research however are not certain specific bearing the exploration must take. Exploratory examination focuses to improve the early experiences or hunches to offer heading for any further obliged exploration. Exploratory method is most

helpful when the investigator wishes to comprehend a circumstance better or perceive plan of choice.

5.5.4 Sampling design

Sampling plan or arrangement is the strategy used to choose the required participants from the open populace. There are two sorts of sampling strategies, they are, probability sampling and non-probability sampling system.

Probability sampling or random sampling is the one in which every individual from particular populace has comparative possibility of being chosen. Probability examining computes sampling mistake. The probability sampling methods are: 1) Cluster testing; 2) Simple random examining; 3) Stratified examining; 4) Systematic inspecting; and 5) Multi stage inspecting (Levy & Lemeshow, 2008).

Smith (1983) portrayed that non-probability examining is the place where the samples are not picked in random method. Here one picks the respondents taking into account the judgment of the investigator's comfort or other nonrandom procedure. Since subjectivity is included, currently sampling each participant's chance is not chosen which is being incorporated in the sample. As a result, the sampling lapse cannot be measured and there is a high hazard that measurable induction concerned on a non-likelihood test will be one-sided. There are four sorts of non-probability inspecting namely, 1) Judgment examining; 2) convenience sampling; 3) Snow ball testing; and 4) Quota sampling.

Justification:

The study makes use of the convenience sampling method and this is used because the researcher chooses the case studies according to the convenience and thus the project maturity model is explained from various other firms that use the project maturity model in their operations. It would be easier to find the answers relevant to the research study. Using this sampling technique, the evidence can be gathered from the web-sources of the targeted organization.

5.6 Data collection method

The exploration information is about perceptions or actualities on which the contention or examination is made. Information is fundamental in completing any exploration. This exploration makes utilization of just the secondary information for the study.

Secondary data method used in this study

As per Kumar (2002), secondary information is the data, which contains the raw data that is assorted in advance by various researchers at various times of their study. Secondary information is regularly the starting point of any research since the investigator gets basic knowledge of his/het theme by using the secondary data. A significant restriction is that the secondary information has now been gathered for an option that is other than the present study and research issue. Such information may not address the point being referred to or might just give some piece of the data anticipated. That data may not be precise or it might be antiquated. It is imperative that secondary information be inspected first as these can give important foundation data that can be utilized to characterize the work, create destinations and point out the most fitting strategy. Secondary information is one that is accessible ahead of time and could be gotten to through outside materials (Merriam, 2009). This study makes utilization of books, articles, exploration papers and web identified with live work administration to gather secondary information. For this examination, secondary information is additionally assembled from the web sources of the target organizations. Case study method is used to find the answers and the case study type of exploration comes under the secondary sources of data. The case studies will be real and it will be the practical evidence and hence the secondary data sources used here are case studies of the firms.

5.7 Analysis and interpretation of data

Dominick and Wimmer (2010) depicted that the exertion and the time required for information investigation and understanding depends on the study's strategy and reason utilized. Examination and elucidation may take from numerous days to numerous months. In a few private investigations of exploration, including just an individual question information examination and elucidation may be done in a small time period. Each one-examination study must be deliberately arranged and worked by rules. At the point when the examination is done,

the investigator must work back and accept what has been created. The investigators must focus on the ideal investigation whether their work is legitimate internally or externally.

5.8 Analysis technique used in this study

The examination method utilized as a part of this exploration for examining the gathered subjective information is content investigation. As per Travers (2001) substance examination is the nonexclusive name for content investigation that includes contrasting, differentiating and arranging a group of information keeping in mind the end goal to test speculations. It is additionally the procedure of sorting out and incorporating story subjective data as per subjects and ideas. Content investigation is a strategy for dissecting composed or verbal correspondence in an efficient and subjective design. The investigator has embraced the same technique in this study. The gathered secondary data will be analyzed by means of the textual analysis. Textual or content analysis will make the investigation in a very understandable manner for all the other investigators who follow or take the information of the present research.

5.9 Strategies for validating findings

Reliability and validity are the two essential parameters that are utilized to choose the nature of exploration directed. However, validity and reliability are major concerns in quantitative research and does not hold a fundamental place in subjective exploration. Rather the four parameters that are of greatest noteworthiness in discovering the subjective examination quality are transferability, credibility, dependability and conformability.

5.10 Credibility

The nature of subjective examination can be expanded by incorporating believability, trustworthiness and transferability. Validity depends on: 1) the investigator's believability; 2) thorough systems; and 3) philosophical faith in the estimation of subjective exploration.

5.11 Transferability

Malterud (2001) portrayed that transferability is regular to outer legitimacy. Outside legitimacy is the ability to sum up the results of a particular study to different people, time and settings. As a rule, subjective exploration is not generalized clearly. Subjective examination discoveries can be transferable to other populace in public circumstances.

5.12 Dependability

Dependability is regular to unwavering quality. In quantitative exploration constancy is the degree to which the results of examination are steady, reliable and tried and true. In subjective exploration dependability, concentrates on whether the results found are steady in the information gathering. In subjective exploration, the unwavering quality idea is the place the accentuation is on re-presence or replication of the conduct under perception is risky because human conduct is never static. Reliability may be created by utilizing a few methods, for example, intense depiction of routines utilized as a part of leading the study and triangulation (Crowther & Lancaster, 2008).

5.13 Conformability

As per Chilisa and Preece (2005), conformability is like objectivity in quantitative exploration. It characterizes to the concentrate to which the discoveries in the study can be followed to information acquired from the witnesses and the settings of exploration and not to the predispositions of examination. A portion of the techniques of creating similarity to be specific triangulation and reflexivity are examined under believability.

5.14 Ethical considerations

Gravetter and Wallnau (2010) mentioned that the investigator must catch up moral issues in his methodology where certain measurements are met; it changes from procedure to process as per every investigators and their procedure. Consequently, to effectively finish the

exploration transform, each examiner needs to go over the moral issues included and meet the ethics as well. The information assembled from distinctive sources, particularly from secondary strategies are to be validated; validation systems are accordingly followed in the moral issues and considered as a huge moral technique, then again the association and investments of the participants in the examination procedure are thought to be an alternate critical strategy. For dependable results, the members are deliberately picked by the investigator the whole time accordingly permitting them to uninhibitedly express their perspectives and thoughts on the subject.

5.15 Summary

This chapter makes it clear that the research is qualitative in nature. The investigator uses the case study design and hence exploratory study is used. The investigator uses various projects maturity model cases of various firms. This section in addition to explaining the data analysis and interpretation techniques used for the research has described about ethical considerations and limitations associated with the research.

Chapter (7)

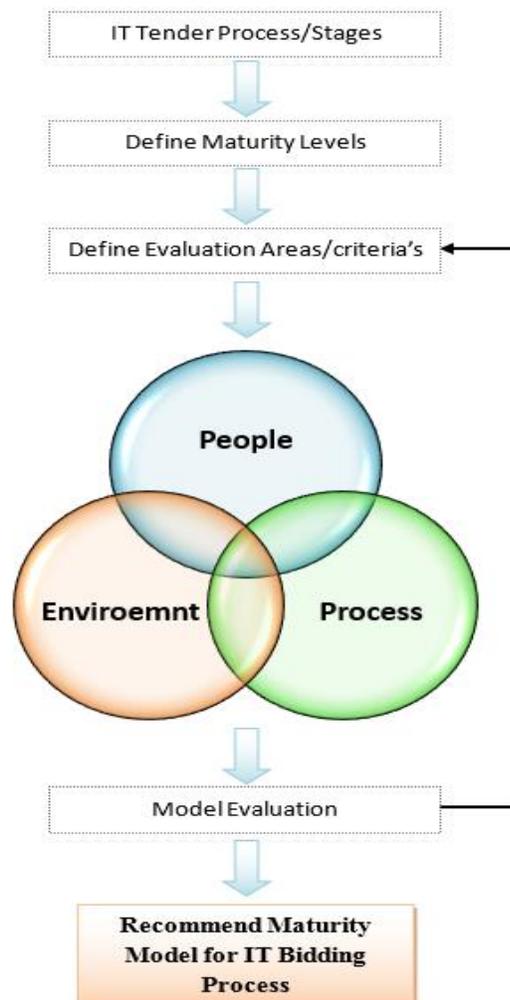
FRAMEWORK

DEVELOPMENT

Chapter 6. Framework Development:

6.1 Developing Draft Framework:

The draft framework was developed based on an initial conclusion from the literature review. All the areas and criteria identified in the framework. After that the draft framework will be tested on the (3) cases to validate the framework and ensure that the areas and criteria are related to the framework by providing significant relationships and results. The draft framework also explores the relationship between the areas and criteria and how those are linked to each other's and interrelated. The draft framework is depicted in Figure 19 and the following sections will provide more details about the framework.



6.2 Limitation

PhD research suffers from limitations and difficulties and this research is also facing the limitation as well. There might be limitation to access the required information, such as the top management of firm, sharing specific information and collaboration during the model testing (interviews or even accepting the interviews in principle).

Also Time constrain is one of the main limitations because the subject has many details and to overcome this issue, the proper planning should be done for all stages starting from the preparation and reading lectures to the interviews to coordination with the supervisor.

The subject is covering wide area, for that the model shall cover specific area/process within the IT firm, and clear selection for the IT firm, the scope of the research shall be clearly defined and agreed on it with PhD supervisor.

False information from case study employees can be one of constrains. In this case the reality, validity and trust between both sides should be there, and the case study employees can provide false information because of confidentiality of the information. That is why the trust and confidentiality should be between both sides and to avoid this case of limitation, the information has been gathered from different levels within the IT firm.

6.3 Proposed Framework:

Evolution of this model needs to be clearly explained. The Proposed Model will have (5) Maturity Levels and will be evaluating (3) Main Areas:

- People,
- Process
- Culture/Environment

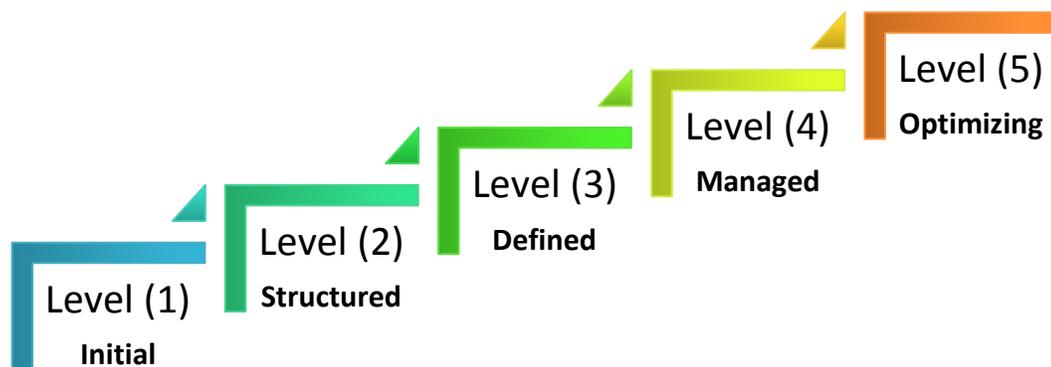


Figure 6.2 Proposed Framework Maturity levels

6.3.1 Brief about the Bidding Process:

The Tender/bid Process is not a “proposal” process. It is an opportunity process that starts as soon as an opportunity is identified/qualified to ensure that the way intelligence is gathered supports the closing of the sale — which happens to involve producing a proposal. Producing a Quality winning proposal requires that Organization start well before the RFP is released so that they have a competitive advantage before the competition has even begin. One on the Tender Process has been identified and used is the MustWin Process where Capture Planning is the author of it. Must Win Process will be used in the in this research to identify all stages of the tender process

The Bidding Process provides a means to get everyone on similar page. This process expedite the process using written standards and hinder people from making it up as they go along and clearly define roles and responsibilities so that everyone knows how to work together. The bidding process tracks the action items so that everyone knows what is expected of them and the tools of communication and planning assures that everyone has information required to execute their role. The tools are used to measure the progress of bidding process and constant feedback is provided so that everyone knows where they stand. For element of the proposal validation is performed to ensure that it is right. The below figure shows the stages of bidding process: From the above figure the IT Bid/Tender Process include (8) stages namely Lead Identification, Readiness review, proposal planning, solution development, proposal writing, proposal validation, proposal production and proposal submission. Each stage is described below briefly:

6.3.2 Lead Identification:

Lowe (2013) has mentioned that Lead refers that a bid is in the most rivalry position at a particular time moment during the process of buying. The statuses of lead may fluctuate until the decline of buying and it does not essentially mean win as it is at the discretion of buyer which seller to award. This is the initial step of the bid cycle process which commences once an essential lead has been identified. Ideally the lead viability must be assessed and its appropriateness to the strategy of organization assured through a greater level review of business validation. Following a positive decision the essential supplier will seek to enhance their capabilities and impact the decision makers of buyer.

6.3.3 Readiness Review:

Dickson (2015) has mentioned that in the CapturePlanning.com Must Win Process the readiness reviews offers a basis for a bid/no bid system that mentioned these problems. The Readiness Reviews comprises of 4 reviews each with a particular list of queries to be responded and targets to be achieved. Since every review is regarded as a bid/no bid meeting they offer a structure common to gate style reviews. One major difference between gate systems and readiness reviews is that readiness reviews concentrate on assuring that organizations are prepared to win instead of financial considerations. Readiness reviews can be customized

easily to accommodate their financial considerations. How well the queries are responded and targets are accomplished served as criteria of decision for a readiness review.

6.3.4 Proposal planning:

Mitch (2009) has stated that in proposal planning individuals must participate actively as a member of capture team to create the proposal/create strategy and operations concept and attend major incidents such as industry day, black hat and reviews of blue team. An integrated proposal team is created which reports to proposal manager during the efforts of proposal development. The proposal management plan is developed based on sample proposal management plan and kick off materials are prepared based on agenda of sample proposal kickoff. An initial executive summary, storyboards, graphics and initial outline is developed in proposal planning. Finally the members must support in choosing suitable references of past performance.

6.3.5 Solution Development:

According to Garrett and Parrott (2007), proposal or bid development is the process of making offers in response to written or oral solicitations or based on perceived needs of buyer. Proposal and bid development can extent from one individual writing a more than one page proposal to a group of people evolving a multivolume proposal or 1000s of pages that takes months to prepare. As the solution is developed briefly the person must take steps to assure it compliant holistically with customer's delivery, technical, contractual and financial needs. The people probably predict gaps or essential adverse circumstances which could exist.

6.3.6 Proposal writing:

According to Erickson (2015) proposal writing is a competitive process and the pools of competition get bigger every year. Since proposal writing is a learned skill the only way to acquire better is to learn an efficient process. White (2006) has stated that proposal written in response to a federal request for proposal is closing documents of sales. A successful proposal is not written to win it a written not to lose. It seems contradictory but it is true. Well drafted proposals defend the beachhead of sales that they have already set up with the customer. Proposal writing is the last essential step in the process of sales. The complete process from

identification of opportunity to relationship of customer building to proposal writing and contract award must be a highly structured process.

6.3.7 Proposal Validation:

Newman (2001) has mentioned that the decision of bid validation is started by the receipt of the last request of bid. The aim is to recognize any needs that preclude bidding and to ensure the proposal development plan is current. A positive decision of bid validation initiates the kickoff meeting of final proposal and the full preparation process of proposal. Participants submit their bids indicating present contracts and specify limitations over the parameters during the negotiation. Desel *et al* (2004) has stated that the bid validation considers the following criteria namely: 1) the bid must be submitted according to the negotiation norms; 2) the bid must have a valid limitation over parameters defined in the template of negotiation; and 3) these norms specify among other things who can make bids when they can perform that and what type of bids can be made.

6.3.8 Proposal production:

According to Mitch (2011) the proposal production activities are managed to assure the last proposal is delivered on time and in compliance with instructions of customer and this procedures activities involve: 1) effort of lead to review, produce and compile the last response of proposal and package assembly; 2) verify material response, formats, proposal firm and final layouts are in compliance with RFP needs; and 3) submit response of proposal to customer. Newman (2011) has mentioned that excellent support of production throughout the process of proposal preparation is important to win competitive business consistently. While having a dedicated production of proposal support group is ideal two extremes are similar i.e. 1) production is performed by sales supports staff or proposal team; and 2) production is performed by a firm that assists newsletters, product manuals, technical reports, brochures and marketing presentations.

6.3.9 Proposal post submission:

Springer (2005) has mentioned that once the proposal is written, approved and reviewed it is ready to be submitted. The post bid proposal phase initiates once the proposal is submitted to the purchaser and involves major actions needed to close the sale, deliver the solution,

negotiate the deal, identify follow on opportunities and view for process developments. After the proposal has been submitted the customer may need certain small kind of change or it may be determined internal to the firm that it would have been better to have recommended a varied design. If it is the customer demanding a change then the customer will most probably ask for a best and final offer. The customer may ask for best and final offer without demanding a change and these offers the contractor one last try to massage their bid before a last award decision is made.

Another figure shows the sales and bid process and must be evaluated across the areas and criteria's for the framework:

6.3.10 Proposed Model Areas and Criteria

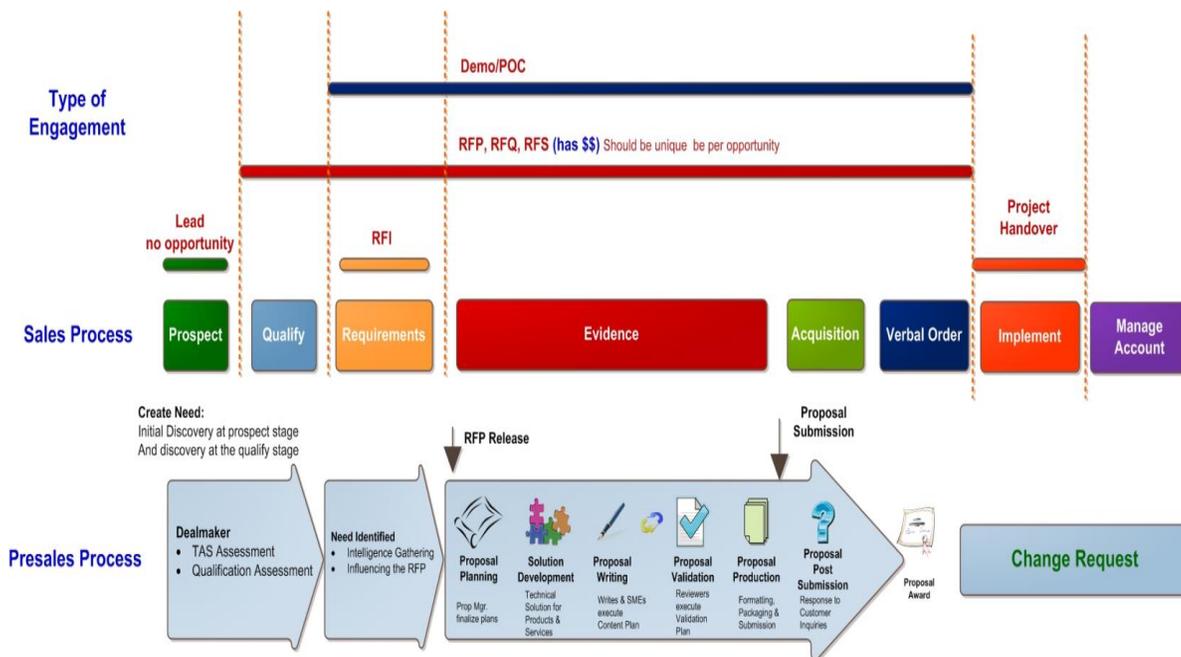


Figure 6.3 Must Win Process based on model of Carl Dickson

MATURITY LEVELS		Level (1)	Level (2)	Level (3)	Level (4)	Level (5)
		Initial	Structured and Repeatable	Defined	Managed	Optimizing
People:	On Initial Level No Process in-place	Staffing	Staffing	Staffing	Staffing	Staffing
		Training & Career development				
Process:	On Initial Level No Process in-place	Competencies & Skills (Experience)				
		Policy/Procedure	Policy/Procedure	Policy/Procedure	Policy/Procedure	Policy/Procedure
		Communication	Communication	Communication	Communication	Communication
		Tools	Tools	Tools	Tools	Tools

Environment/Culture		Management	Management	Management	Management
		Structure	Structure	Structure	Structure
		Culture	Culture	Culture	Culture

1. People:
 - a) Staffing
 - b) Training & Career development
 - c) Competencies & Skills (Experience)
2. Process:
 - a) Policy/Procedure
 - b) Communication
 - c) Tools
3. Environment/Culture
 - d) Management
 - e) Structure
 - f) Culture

People - Staffing:

According to the study of Curtis, Hefley and Miller (2009) the staffing purpose is to set up a formal process by which committed work is matched to skilled individuals and unit resources are hired, chosen and transitional into assignments. Staffing is placed as the major area of process at 2nd maturity level because decisions of staffing offer a firms largest opportunities to impact performance. All other practices designed to develop the workforce capability must initiate from the talent baseline brought into positions in the firm. Managers must balance the work commitment of unit with its available employees since new processes of organization are capable to demonstrate their essential advantages in firms that are overworked chronically. Managers take the liability for

hiring talent for open positions and they coordinate with recruiting activities of organization both externally and internally focused. A formal process of selection is evolved to assure fair and thorough skills evaluation and every candidate's qualification. Among assignments, processes are set up for transitioning people into new positions, or if essential out of the firm.

Heckscher and Adler (2006) have described that staffing is designed to use and set up a formal method by which talent is hired, chosen and transitioned into assignments in the firm. Recruiting includes recognizing the skill and knowledge needs for open positions, encouraging entire individuals to seek out skilled staffs, declaring the position availability to probable candidate sources and reviewing the recruiting efforts effectiveness. Selection includes evolving a list of skilled staffs, referring a strategy of selection, recognizing skilled staffs, choosing the most skilled staffs and estimating skilled staffs thoroughly. Transitioning includes attracting chosen candidates, orienting them to the firm and assuring their successful transition into their new positions. Gujral (2012) has mentioned that the trend in shaping the workforce initiates with setting up general practices of staffing grows to evolving plans for development of workforce, tracks and sets objectives for workforce competencies and then views for consistent innovation sources. The improvements of staffing includes initiatives for prioritizing and identifying future and present requirements for abilities and skills, personnel knowledge and realizing these requirements through developed staffing, career path facilitation and retention through training, mentoring and education. Wademan *et al* (2007) has stated that in staffing aspects a formal protocol is set up to hire new staffs to match the human capital demand in the firm or different departments. Additionally the process of recruitment obeyed the associated regulations and laws. The internal training supported employees to cultivate progressed expertise of professional and commitment of organization to match this demand of organization. Bhattacharjya and Chang (2006) have inferred that the demand for staff services and time are developing and most of the IT groups find it critical and at times challenging to accomplish their objectives of operation. Despite the issue of staffing in many firms the process improvements continues to exist because of continued senior IT management commitment. Crawford (2014) has described that resource forecasts are use for prioritization and project planning. The performance of project team is integrated and measured with plans of career development. Hopkinson (2012) has inferred that organizations with weak resources of project risk management may require considering the implications of career development for people making this selection to attract people with the qualities that are needed.

Training & Career development:

Wysocki (2004) has mentioned that training and development includes offering the training required to close any gaps that occurs between skills possessed by the members of team and the skills needed of team members to meet their allotted responsibilities. Similarly career development focuses on individual plans development to enhance the achievement and definition of career targets for every individual. The process involves a capability of monitoring as well. The plan identifies the progression of career that will lead to the goal of career and a method of updating that plan. According to Kulpa (2007) training and development concentrates on preparing an individual to develop her or his capability to carry out their immediate assignments. Training and development assures that individuals must have skills needed to carry out their assignments with similar opportunities of development offered and orients employees to practices of organization. Chen *et al* (2011) has mentioned that the three dimensions of training and development are orientation of employees, career planning and development and on the job training. The evaluation focused on enhancement of employees of performance appraisal on behavior or skills after the training. Simultaneously the organization offered irregular technique sharing and adequate updates of professional knowledge in its internal website. These approaches were meant to support present employee avoid the technical expertise gap.

Curtis (2011) has mentioned that career development is about how individuals handle their careers between and within firms and how firms structure the career advancement of their members so that it can be tied into succession planning within certain firms. Career development is the complete constellation of sociological, psychological, physical, economic, and educational and chance factors that integrate to impact the significance and nature of work in the complete lifespan of any given individual in personal development. The evolution of career development is informed by experience within a particular interest field, educational attainment, lifelong behavioral and psychological processes as well as contextual impacts shaping career of an individual over life span and success at every development stage. As such career development includes the creation of a person of a career pattern, style of decision making, combination of values expression, life roles and self concepts of life roles. .

Competencies & Skills:

According to Gokhale (2005) competency is a group of related skills, attitude, knowledge and other personal features that: 1) correlates with job performance; 2) influences the main part of one's job; 3) improved through T&D; and 4) estimated against well approved standards. A competency is what a successful employee must be capable to achieve desired outcomes on a job. Competencies are not innate and constructed over time. It usually acquires job experience to enhance competencies. Similarly Wysocki (2004) has mentioned that the competency analysis process involves a provision for storing, maintaining and measuring the individual's skills, abilities and knowledge so that the capabilities of organization of every area of competency can be assessed exactly. The competency analysis recognizes the present competence and skill profile of workforce. It is not enough that individuals evolve competency in project management the firm itself has to develop and study the capability to continue to learn. Hamidaddin (2006) has stated that the competency of project management is the ability to handle projects professionally by applying best practices considering the project management process design and the project management methods application. The competencies of project management need experience and knowledge in the subject which enhances the project to meet its objectives and deadline. The professionals of project management performing in projects where technical problems are essential must have the competency to manage with them. Edum-Fotwe and McCaffer (2000) has mentioned that project managers must be capable to identify the problem and be confident that proper action has been taken to manage with them. Technical problems can cause a project to fail and always have performed. The competencies of project management are accomplished by the integration of knowledge and education needed during training, the skills evolved through experience and the application of such needed experience and knowledge.

Zeilinski (2005) pointed out that the most essential competencies which project managers must have would be technical skills. Nowadays they had been much inclined to place negotiations or communications acumen at the top of their lists. There is no denying the significance of technical expertise to orchestrate the project successfully. Handling the scope of imitative, risk, cost, schedule and resources are all important skills. Indeed the upfront planning quality and the skills of project leader at rescheduling as conditions of project alter can decide the fate of project all on its own. But in rethinking hierarchies of skill several firms have these much as baseline

competencies. Now they consider soft skills such as negotiation, communication, persuasion and conflict management as greater order skills. Gillard (2005) has mentioned that a competency concentrates on ability of manager to maintain the site of mission of project and to begin action to accomplish the target effectively. Effective project managers describe a result oriented attitude. The concept keeps project managers focused on big term targets and quality in spite of daily routine. It deters the project manager from becoming lost in day to day details. Thus behaviors, attitudes and competencies are essential resulted oriented features of effective project managers.

Staffing

– Level 1

- Recruiting without focusing on Skills.
- No Skill Screening.
- No staffing Plan
- Skills not relevant to Job

– Level 2

- Low level skilled staff with low level technical expertise.
- Staff working in Different Profile
- Internal Procedure development for recruiting but not implemented/ not effective
- New Staff recruits are expected to have basic required skills.

– Level 3

- Dedicated staff for Sales Back Office (Sales Back Office Established)
- Team Appointed Per-Sector (project Area)
- Technical Expertise have been recruited

- **Level 4**
 - Team Leader has been appointed to each Sector
 - Recruiting Process got effective and Mature
 - Services Team has been appointed
- **Level 5**
 - Proper Staffing for Each Sector (Manager-Team Leader – Technical)
 - Quick Online Staffing Process
 - Core Skills have been recruited
 - Clear Job Function has been identified and fulfill.

Training & Career development

- **Level 1**
 - No Training Plan
 - No Career Path for Staff
 - No Training Provided for Staff
- **Level 2**
 - Training for technical Team Unit Head Only & Managers
 - Training Focus on Technical areas only
 - Training to fulfill the requirements not aligned with Company Strategy
- **Level 3**
 - Training given for all Technical Team

- Training Plan Set beginning of Year Plan
- Training Linked with Company Strategy
- **Level 4**
 - Training given for Sales, Technical Team and SBO
 - Training is focusing on Technical Soft Skills
- **Level 5**
 - Training is Linked with HR System
 - Reporting Training and Career Development
 - Update Training and Career Development as per Market (Dynamic)

Competencies & Skills

- **Level 1**
 - Required skills not available (individually based).
 - There are limited technical skills/ Competencies in the unit.
 - Skills are not relevant to the Business Unit.
 - No Skills Development
- **Level 2**
 - Users have the needed training and skills to use.
 - Staff acquires the skills needed to for Business Unit.
 - Individuals have the skills required to perform their assignments and begin to have the relevant training and development opportunities.

- Individuals in the organizational workforce have compensation and benefits based on their contribution and value to the organization.

– **Level 3**

- There is considerable technical competence in the organization because of the well-developed skills.
- The organizational workforce is constantly enhancing their skills required to perform their assigned tasks and responsibilities.
- Project Management is realized to be needed at this stage, resulting in well-developed project management skills.

– **Level 4**

- Staff have business skills, knowledge and skills are required
- Staff has good interpersonal skills.

– **Level 5**

- Skills and competencies are monitored and documented.
- Using HR System to log enter required skill to be developed

(1)Process:

Policy/Procedure:

According to PWS (2009) bids are known as tenders and request for proposals are approved before or on the deadline during regular working days. A request for proposal also known as RFP is a process based on project involving qualifications, price and solution as the major criteria that refer a winning proponent. The request for proposal is used mainly to adopt services when buyer needs to implement and review new and varied solutions to a project, business process or problem. A request for proposal can extend from a process of

single step for straightforward procurements to a multi stage process for significant and complex procurements.

Bayer and Gann (2006) have mentioned that the bidding policy in the base case is not ideal as it outcomes in under resourcing of projects and a consequent deterioration in performance across portfolio. The policy of allotting entire spare capacity of experienced unassigned employees to bidding is improper for two reasons first reason is that no bidding is carried out when the workload of project is high and the second reason is that too much work of bidding is carried out when workload of project is low. To address the first problem a bid staff team which will never be assigned to projects can be made. To resolve the second problem activities of bidding can be restricted relying on present workload and pipeline of project. The two kinds of bidding policies which take the pipeline of project into account make the maximum time of bidding stated as a percentage of number of overall staff, linearly dependent on project numbers presently being carried out, the number of projects to be initiated and the number of bids awarding decision. The effort of bid is restricted by availability of staff relying on the policy, the bid team size or the number of experienced employees not employed in execution of project.

Communication

Dow and Taylor (2010) have described that the communication perspectives of project proposal are essential because if anything is missing the organizations that are bidding on the work are performing so without all the data. When project managers create the proposal of project they must view at the bid document from the perspective of communication and assure that everything is involved. If any part is missing the bidding firms may end up turning in a reduced bid not realizing that the proposal of project is incomplete. Thus the project manager or the firm was not communicating efficiently with the bidding firms and it will cause future issues on project. A perfect document of proposal of project equals a perfect process of bid. The proposal document is advantageous from the perspective of communication because it interacts the proposed project understanding to anyone involved in the project. When evolving a proposal of project that is thorough and complete the

estimates acquire from contracting firms must closely match the project expectations. If it does not the project manager could perform into certain issues of project involving plan, scope, quality and costs. Some firms that generate several proposals a year have a template known as boilerplate to follow which composes huge number of proposal document before adding specific information of the project. Therefore individual project managers or members of team allotted to evolve the document only to add the project specifics to the document an it is complete. A well written project proposal interacts the data required to make the future project that there will be little requirement for extra data. To evolve a proposal of such greater quality needs effort and dedication that will save cost and time on the project itself. A well written proposal makes it simpler for bidders to refer how they are going to perform their work and their estimate on plan and costs. With a poorly written proposal of project bad communication exists to bidders and the evaluations will differ and have vast ranges. If the bidding firms are not clear when they initiate the project this will cause several problems during the process of bidding and throughout the project lifecycle. Similarly according to OECD (2015) tenders must limit as much as feasible communication between bidders during the process of tender. Open tenders enhance signaling and communication between bidders. A need that bids must be submitted in person offers a chance for deal making and last minute communication among organizations and this could be hindered by using electronic bidding. According to Think Project (2015) communication with the bidder is not as conventional as informal electronic mail because it is structured through an online form that is responses can be processed instantly with all data and information submitted reportable and feasible without manual processing. Information acquired from bidders can be structured and allotted for streamlined follow up. The tender management module combines seamlessly into their existing infrastructure of information technology offering the ideal platform for structured communication with bidders without giving them access to their internal systems. Templates can be made and stored in the system for entire communication with bidders. Thus project managers must view at every meetings from the perspective of communication and decide what status they need to interact in every meeting.

Tools:

VanBoskirk (2012) has mentioned that nowadays the providers of bid management are mainly simple sets of tools for handling paid search programs and sometimes a wider number of biddable media. On the whole the category is much concentrated on one upping rivalry characteristics than on inventing the wider future of discovery marketing. Several marketers turned to homegrown tools and search engines instead because standalone technique could not handle the complexity or size of enterprise programs successfully. Price Grabber is regarded as a third party tool of bid management when its internal system could no longer accurately or effectively handle bids for its greater than 16 million keywords. Tools that execute and optimize strategies of bidding will becoming highly essential as marketers perform to manage their entire programmatic media purchases. According to Murray and Ward (2007) a supplier firms was struggling with its performance of sales. Faced with reduced revenues and reduced win ratios several managers within the firm initiated development tasks to develop sales. There were initiatives to recruit professional bid managers to implement a CRM tool to enhance new methodology of sales to alter the way commission of sales was estimates and to train account managers in consultative selling technologies.

Parker (2000) has mentioned that monitoring tools in bidding firm may help in tracking down their phrases or keywords and search engines as to which among them always produce sales, overall and in relation to their cost per click. This is what known as returns of investment monitoring. The tools of bid management may involve extra functions that may not get from online tools of marketing that are feasible readily. Other tools can supervise rivalry bids, generate reports for varied parties and provide the capability to interface with numerous PPC engines. This is helpful to those who handle greater than a 100 keywords across numerous PPC engines to save time and enhance productivity. Pay per click bid management is ideal for efficient promotion of online business without the hassles of draining financial keeping too much. Thus numerous tools are used as a way in bidding firms in marketing their services and goods to meet as several customers as possible.

Process:

Policy/Procedure

– Level 1

- No Bid Process/Procedure
- Ad-hoc process
- No RFP Management Process

– Level 2

- Bid Process is established and used by Technical Consultants only.
- Organization establishes creating Bid Management Policies and procedures.

– Level 3

- Sales and Technical Consultants are aligned.
- Complete Process for Bid Management
- SBO has been established

– Level 4

- Sales and SBO Process are integrated with Technical Bid Process.
- Complete Procedure for RFP Handling

– Level 5

- Monitoring and Reporting
- Auditing
- Enhancing the Process and Procedure

Communication

– **Level 1**

- No Communication Plan
- Ad-hoc communication (Information Distribution)
- Communication between Units not documented

– **Level 2**

- Internal Communication (between Unit members)
- Communication with other units not established

– **Level 3**

- Structured communication between Units
- Communication documented
- Information distributed using Organization Tools (email, Portal ...etc)
- Issues Documented and Followed-up

– **Level 4**

- Communication between all Units across Offices/Departments identified (Matrix)
- Virtual Communication for Geographical Team members
- Bid is progress Reported (Different Stages)

– **Level 5**

- Effective and high Utilization for Communication tools
- Reporting about Communication Utilization and business impact.

Tools

– Level 1

- No Tools are in used for Bid Management
- Stand Alone tools (Personal) if staff is using.

– Level 2

- Bid Management Tools Introduced
- Sales Process Tools Introduced
- Collaboration Tools introduced

– Level 3

- Bid Team is using CRM Tool for Accounts and Opportunities Management.
- CRM Tool is up-to-date (by Bid Team)

– Level 4

- Management Review and Monitor Bid Progress
- Geographical Collaboration using Current Tools (Virtual Teams)

– Level 5

- Monitoring and Reporting Tools Implemented

(2)Environment/Culture:

Management:

Emery (2001) was that teams of bidding must acquire knowledge not only of competitive content of bid but also of those individuals who will be presenting it. The capacity to

highlight where one bid is better at meeting the needed criteria can be accomplished once information on other bids is perceived. In preparing for upcoming bids the management team of the organization together evolves a strategy of bidding. Such a pre-bid meeting must be arranged in getting everyone focused on the task at hand and for refining prior strategies of winning and for learning and debriefing from prior losing strategies. Desbiens et al (2010) has mentioned that several firms have spread out firms geographically. Such teams predict group sites useful permitting them to collaborate and share on documents and to handle their work in a well organized way. In other firms there is a need to form virtual teams in an adhoc way to accomplish objectives. If an organization is bidding for an opportunity of sales a virtual team of sales representatives, domain experts and marketing analysis is formed. The team can use threaded discussions to converse about the process of bidding, leverage wiki pages for authoring shared content and use tools of project management to set deadlines, define tasks and allot them to owners. Bid related documents such as profile of an organization; drafts of bid document and template of bidding are stored in the enterprise content management system of an organization and can be related to discussion forum threads associated to documents. Users can allot keywords to discussion forum threads as well as documents permitting them to predict the data later on. Tags can be indicated by a tag cloud offering an easy to navigate visualization of the crowd wisdom. Mahnke and Pedersen (2012) have described that a virtual team is recruited with membership from each of the expertise areas needed for the bid. The major bids supplies the lead design engineer known as the bid consultant and the most proper regional business unit offers sales account manager who forms the major communication channel with the client. Knowledge sharing is thus within the team across teams and functional areas by retaining major personnel in sequential bids.

Structure:

According to Mo *et al* (2015) to rival in the global business surroundings organizations must collaborate across their firm's boundaries to form a virtual enterprise and bid for new projects together. This distributed team of bidding includes members from leading bidding firm as well as its partners and feasibly the client as well. During the process of bidding

data that is essential to the process must be seized in a particular structure that can be used as a part of corporate memory for assisting the bids preparation rapidly. Additionally the knowledge captured in the bid can be used for contracting and total support of product lifecycle. The procedures used for bidding projects are informal and formal bidding. The formal bidding involves sealed bids, advertisement, number of bids, electronic bids and payment bonds, bid and performance. According to PPIAF (2006) before initiating the process of selection the contracting authority requires a clear structure of management. The structure of management for the stage of selection might be much execution and learner oriented than earlier in the process of reform. The structure could involve a steering group indicating major government agencies in charge of the process and monitoring a technical team that does the work. The steering group is liable for drafting the documentation of bid deciding bidders on short list and recognizing the winning bid. After choosing a bidder the contracting authority may form a separate negotiation team which involves project steering group members while handling authority for approval on issues of material. In several cases the structure of the bidding process is decided by funding or local agency procurement rules. A review of similar regulation and legislation may be needed early in the design of procurement to assure that the proposed process of bidding will be compliant legally with applicable international and local regulations.

Culture:

According to Kerzner (2013) there are varied types of cultures in project based upon the business nature, the amount of cooperation and trust and the competitive surroundings. The types of cultures are cooperative cultures which are based on effective and trustful communication externally and internally. Non cooperative cultures mistrusts prevails and employees worry much about themselves and their personal interests than what is best for the company, customer or team. Competitive cultures force teams of project to rival with one another for valuable corporate resources. Similarly isolated cultures is another type which exist when a big firm permits functional units to evolve their own culture of project management and can outcome in a culture within culture surroundings. Similarly Kerzner (2010) has mentioned that fragmented cultures exist when the part of the team is separated

geographically from the remaining team. Fragmented cultures exist on multinational projects where the corporate team or home office has a strong culture for project management but the foreign team has no sustainable culture of project management. Executives are the corporate culture architects. The culture always reflects the personal aspirations and aims of the senior most management levels and how they desire to have the function of the company. Thus good cultures can actively assist project management for managing the organization successfully.

Environment/Culture:

Management:

– **Level 1**

- Departments (Sales/Technical) not connected/aligned
- No Departments meetings
- No Units Meetings

– **Level 2**

- Unit Heads have regular meetings
- Alignment between Sales and Technical Unit Heads

– **Level 3**

- Introduce Incentive Program
- Team Structuring to be aligned with Company Sales
- Roles and Responsibilities Clear and Assigned

– **Level 4**

- Virtual Team Management
 - Geographical Team Management
 - Centralization and Decentralization Management/Authority
- **Level 5**
- Top Management Regular Meetings (Review and Feedback)

Structure:

- **Level 1**
- There is no Centralized Technical Unit (no formal Structural).
 - Technical Unit Responsibility is limited to RFP Response only.
 - No Coordination (link) between Business Unit and Technical Team
- **Level 2**
- Structured Technical Team
 - Clear Responsibility for Technical Unit.
 - Alignment between Business and Technical Teams
- **Level 3**
- Technical Team Leader assigned
 - Consultancy Management is centralized
- **Level 4**
- Different Team assigned for diffract business Units
 - Clear responsibilities

- Integration with Administration Team (SBO)
 - Centralized Management for all Business and Consultancy Units
 - Integration between Business Unit, Implementation Unit and Technical Team
- **Level 5**
- Working Geographically
 - Centralized Management and reporting
 - Integration overall in the company between all Units.
 - Monitoring and Reporting

Culture:

- **Level 1**
- Resistance for Change (Procedures)
 - Relationship between Consultants not well established
 - Resistance related to Authority and Power
 - Lack of Trust
- **Level 2**
- Start recognize the needs for building the Team Work
 - Identify Each Team member area and benefits
- **Level 3**
- Consultancy controlling the team resistance (implicit and explicit).

- Consultancy Team member are involved in decision making.
- Multi-Boss Reporting is Successful
- Working from Different Time Zone/Geographical

– **Level 4**

- Each Group can decide on the required Activities
- There is integration between groups (Business and Consultancy).

– **Level 5**

- Business team and Consultancy team is working as Partner
- Continues education about Corporation and team work

Chapter (7)

CASE STUDIES

Chapter 7. Case Studies:

7.1 Introduction

The purpose of the case studies for this PhD research is for validating and testing the framework and after that adjusting the framework based on the analysis and feedback from the case studies. Three IT Firms have been identified based on specific criteria to test the framework on the Bidding process. According to Kwak & Ibbs (2002), measuring organizational maturity is subjective than objective where it need to focus on the organization operation as analysis.

The right selection of case study organization is one of key success of the research to ensure right testing of the framework to generate the enough information in order to produce the final conclusion at the end of the PhD research. In this PhD research, organizations selected were based in the Gulf region, and characterized under different sizes, Locations, and structure. Also the selection considers adopting the organization to ICT Technology and utilizing it in bidding Process.

Selection criteria have been identified (10) organizations and (3) of them have been selected. The selected organization has to have the following criteria:

- Size: Big Organization: (500+ Employees)
- Location: Different Offices (Geographical Location in Gulf)
- Structure: Well established, Organization chart, Policy, Procedures ...etc

The chosen organizations were all based in Gulf Region. Organization (A) is based in Saudi Arabia, Organization (B) based on Kuwait and has offices in the Qatar, UAE and Saudi Arabia and Organization (C) based on UAE, and has offices in Kuwait, Saudi Arabia, and Qatar. The organizations are classified as large-sized organizations in the IT Firm where they do have (500+) employees. Details of summary of the case studies are in Table (1)

Case number	Case 1	Case 2	Case 3
Location	Saudi Arabia	Kuwait	UAE
Site Visit	Yes	Yes	Yes
Number of Personnel Interviewed (Total)	5	7	6
Sales Director	1	1	1
Head of Presales	1	1	1
Bid Officer	0	1	1
Account Manager	1	1	1
Technical Engineer	1	1	1
Project Manager	1	1	1
HR Manager	0	1	0

Table 1: Summary of the Case Studies

The case studies have identical structure as below:

- Background
- Company Business Strategy
- Analysis and Discussion (3 Areas and 9 Criteria)
- Summary and Finding

In each case organization background will be presented, such as location, core business, size, historical information. After that the Analysis and Discussion will be presented based on the interview results by testing the framework which contain (3) areas and (9) criteria. These are People (Staffing, Training & Career development, Competencies & Skills (Experience), Process (Policy/Procedure, Communication, Tools), and Environment/Culture (Management, Structure, Culture)

Each criterion will be analyzed and discussed in details in each organization to illustrate the current stage the organization adopting based on the developed framework. The analysis also shows the gap between the current situations and target it position. The latter part of this chapter is a discussion summary and finding based on the cress analysis between the case studies.

7.2 Interview Questions:

The Questions has been designed to cover the three main areas of the model and to cover all the criteria under each area. The design for the research is to have open-ended question with unstructured interview to be able to assess the organization readiness can capabilities and do the analysis. The main objective form the questions to assess organization across the defined areas and criteria, to know identify in which level it can be categories in each area, and how the IT Bid Management can be enhanced and improved. The question has been listed but not limited to:

1. People:

- Are there relationships between Bid Team, and to what level?
- How has been recruiting done internally?, What is the screening process?
- Is the team planning is important for improving bidding efficiency?
- Is the bidding expertise important for improving bidding efficiency?
- Is staff technical knowledge and skills are important for improving bidding efficiency?
- Is there any Development Plan for Technical Team member?
- How organizing manage team Knowledge?

2. Process:

- Is using the latest IT System technologies is important for improving bidding efficiency?
- Is there an “In-house” Process/Procedure for Bidding?
- Is there any effective systems are in place to monitor the progress of all proposal part.
- Is the internal process and procedures having effect of improving bidding efficiency?
- What are the critical success factors for successful bidding?
- How team are communicating and collaborating across different locations?
- Is there processes or mechanisms exist to support effective communication between bid Team members?

3. Environment/Culture

- How Bid management team is organized?
- What is the internal structure for Technical Consultant Team? And they are interface with Sales Team?
- Is there clear roles and responsibilities of bidding team are defined and agreed
- Is there regular and effective mechanisms are in place to report the progress of the bidding to bid manager, and to other mangers.
- Are the responsibilities have been assigned to, and agreed by bid team members for ensuring the delivery of all expected proposal parts.
- Is there any effective processes or mechanisms exist to access the progress or bid information?
- Is the internal communication between bid team members is measured, monitored, and reported?
- Are there responsibilities have been allocated to, and agreed by each team member to ensure the delivery of bid/proposal.

- Is there plans have been defined on how to build successful/winning proposal
- Is there any direct effect on organization because of success bidding, and how you can measure it?
- How new team members (new heirs) adopt/accept SI Culture?
- How Bid Management Team adopt new structure changes?
- What is the level of acceptance and utilization for new systems/tools support Bid Management?

7.3 Case Study (1): Organization A

7.3.1 Background

Organization A was established in 1979 in Damam Saudi Arabia. Organization A has about 750 employees in Damam branches in Saudi Arabia. The HQ has 500 members amongst the Sales, Presales, administration and Support. Where in 1992 the 2nd branch has been establish in Riyadh where 150 employees are operating the office. In 2000 the 3rd branch has been opened in Jeddah with 100 employees as of today.

The Sales Organization body of the organization A and is responsible for its overall business of the Organization A.

From 2009, the company has risen to bigger challenges more competition from different line of business in IT which required more specialization and competitive edge in the IT field. The company annual turnover of \$100 million and the organization a vision:

Helping organizations transform raw data into valuable information by making it more accessible and simpler to manage. Our vision is that information technology must be virtualized, automated, cloud-ready and sustainable. Providing best-in-class information technologies, services and solutions that deliver compelling and demonstrable business impact as the leader in storage virtualization.

The challenge for businesses is to make information both available and secure. Our solutions manage data growth while they collect and connect data to create valuable information. We cut costs, reduce operational complexity and improve information technology.

Organization A went through several restructuring phases during last 15 years to adopt the market share and business model, in 2010; the company initiated a quantum leap to enhance the level and content of its human resource pool by bringing in a selected group of qualified and experienced personnel.

In the last restructuring process, the organization a business strategy is designed around providing a high ICT quality of service that will meet the client's business objectives. The new areas on which the company is focusing are:

- Commitment to continuous improvement
- Commitment to ISO 9001
- Training, including Soft-Skills training, of all employees.

The case study with Organization A was conducted to validate the framework as key personnel of the Organization A had participated. In this case, several interviews have been conducted on semi-structure format and open questions. The acceptance and responses from the Organization personnel was really proactive and positive as the framework idea attract the Organization a Management as they are looking for continuous improvement for better market share. Interview dates with the staff were set two weeks before the interview. The case study started with an open discussion about the framework idea and followed with one to one interview with selected employees. This interview exercise was held with the top management in the sales organization as the information and bigger picture about the company and strategic direction is more informative with them. Different documents have been reviewed with the employees such as the Bid process, Sales Process, Training process and internal memos related to sales and presales. More than 12 discussion sessions have been conducted. The interviewees for the study, Sales Director, Head of Presales, Bid Officer, Account Manager, Technical Engineer, and Project Manager.

Organization A current business includes a strategic partnership with top ICT vendor in the market (Cisco, Dell, EMC, HP) and part of the partnership is to have certified local engineers and support team to provide the complete solution to the local customers in Saudi Arabia. According to the Organization A, competitive posting in ICT market requires new skills, procedure, and business approach by adopting, presenting and implementing ICT technologies, and careful investment planning.

This including specific training plan for Organization a team member during specific period of time. Nonetheless, the company faced difficulties in transforming the conventional team member to adopt the technology trend and to be trained on it to have competitive edge in the ICT Market in Saudi Arabia. As most of the new tender in the market the clients is focusing on the new ICT trends and technologies and the employees need to be ready to present and response to bid.

The Organization Recognizes the importance of its employee's effective communication during the bidding stage to build the comprehensive response and provide them with the necessary tools for effective communication and collaboration, where several tools have been implemented and used is the employees. The Organization ASales Organization with Managing Director are always committed to continuously improve the Sales Process and developing strategies to attract and retain a high quality of staff and encourage continual professional training and development through the development of employees and organizational culture. Organization A realized the importance of the IT tools to support the bidding process and they fully adopt several tools for that purpose.

The following section addresses each area and criteria of the framework model within the context of Organization A.

7.3.2 Analysis and Discussion

7.3.2.1 People

7.3.2.1.1 Staffing

- As the organization structure is well defined the staffing process is well defined as well.

- Skills Matrix is defined per sector within the sales unit as written and documented in the Employee Job description.
 - Some of the staff members are dedicated per sector and some those shared resources.
 - Recruitment process is defined and not well implemented by unit head and Job position requester.
 - Some the units are working as shared resources and they do not have team lead to organize and prioritize the work.
 - Key positions, like Sales Back Office Manager/Bid officers are not hired or under staffing which affecting the bidding process and the quality of the work.
 - There is plan has been reviewed and waiting the approval from Managing Director to hire the unit head of Sales Back office.
 - It was observed that the company realized the need to hire skilled staff to provide competitive ICT solution. Top Management worked with HR for improving their human capital. By not focusing only on training existing staff and improving the learning curve, the company starts hiring the best brains in the industry to and injecting new blood within the organization. .
- The results of Staffing analysis are as follows:

Staffing			
Status	Existing	Target	Gap

Maturity Level	2	4	3,4
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7.3.2.1.2 Training and Education

It is important to the company to make sure that the technical people in the bidding committee are will trained and educated from Technical and Soft Skills and familiar with the biding process and biding stages. The staff provided with on-job training, instructor based training and on-site coaching.

“We sent our employees on training. They will continuously be adopted with required training and education required to keep the Organization on the comparative edge and to provide best solution and practice related to the Bid and solutions provided.”– Sales Director

“The training is mostly hands-on, accumulated form practice during the bid process, We don’t have chance to do mistakes in the Bid as the market in competitive and we must focus and capitalize on whatever we had at maximum level. The senior staff also train their junior staff during the bid process about company best practice” – Project Manager

- They trained up to 3 fresh new hires and (10) existing staff.
- On Job Training is provided centrally for Staff “new hire and exiting”.
- Training programs are centrally provided and integrated within the organization and with collaboration with HR to be conducted.
- The training programmers conducted cover required areas including ICT, management, communication, and leadership.

“At the current stage, we have 3 professional staff member who work on the bid management. Using IT Tools, Skilled, experienced to complete the bid and collaborate with Team member to be focusing on the competitive solution and design.” – Presales Manager

- It was observed that the organization realized the need for on-going training and staff development to provide competitive ICT solution. Top Management worked with HR for improving their human assets.
- The organization philosophy with collaboration with HR to attract, develop the most talented people in the market to build a knowledgeable workforce who will build competitive solutions to ensure that their business goal and objectives are achieved.
- The results of Training and Education analysis are as follows:

Training and Education			
Status	Existing	Target	Gap
Maturity Level	3	5	4,5

7.3.2.1.3 Competency and Skills

- It was observed that the organization realized the need for competency and skills to come with competitive solutions and have excellent edge in the market.

- The company focusing during the new hires on the people Skills and competencies where the company is looking to build the attractive environment to ensure that their business objectives are achieved.
- Staff competency and skills are essential for selection and employee evaluation.
- Part of the annual increments and incentives are provided to staff based on competency and skills. The organization is committed to continuously having the organization strategy focus on attract high-skilled staff and encourage continues training.
- The Bid Team, presales, does not have some skills in dealing with technology area in the Bid which create real issues
- Project Management Team also lacks the skills of project management and planning Skills.
- Organization A does not have enough support/alignment from/with the Vendors Marketing team to implement the required technology Skills
- Staff did not have adequate project management skills.
- There was also a lack of business analysis skills.
- The users acquired a basic skill and knowledge.
- The workgroups within the business units were identifying their own IT skill development which was specific to their work tasks.
- Basic and purely IT skills
- Project Manager gains project management skills and the experience needed for solution development.

- Staff also acquired skills and confidence for bid participation.
- The required skills identified to participate in the bid in three areas:
 1. Basic skills for analysis the bid including essential analysis and define the business requirements skills.
 2. Skills to provide technical and competitive solution.
 3. Project Management Skills
- The company is focusing also on the staff technical and project management skills
- Integration of key skills to be embedded and used within the future Bidding functionality to facilitate the organization a vision to extending global market reaches.

The results of Competency and Skills analysis are as follows:

Competency and Skills			
Status	Existing	Target	Gap
Maturity Level	3	5	4,5

7.3.2.2 Process:

7.3.2.2.1 Policy/Procedure

- Organization a bidding unit (Sales Back Office) is allowed to buy any bid approved by Sales Manager only.
- The Sales Back Office is authorized to buy the bid/tender and manage it.

- Centralized office to buy the bids in the organization.
- The sales business units in the organization have clear policy and procedure to buy the bid.
- The sales business units in the organization have clear policy and procedure to manage any bid with alignment with Sales Back Office.
- There is a procedure (policy) to be followed when the bid is distributed to the right team:
 - Bid Analysis
 - Define the team to response to the bid
 - Detailed Technical Analysis
 - The purpose of the Solution (software/hardware/services)
 - Proposal building
 - Project Management
 - Proposal Review
 - Proposal Submission
- Bidding Unit will collect the responses from the team to complain the proposal
- Bidding Unit is defining the deadline to internal submission.
- Presales Team is shall define the solution and required service.
- Presales has centralized pool of resources working within clear procedure to destitute the load and as per the solution required.

- There is clear policy for ICT Services shall be include it in the proposal, by defining the type of engagement and added value services.
- The role of engagement for internal team policy and producer not well defined when Sales back office distribute the bid/tender.
- The role of engagement for the vendor policy and producer not well defined when Sales back office distribute the bid/tender.
- The role of engagement for Top Management policy and producer not well defined and when it is required, where this lead to that the management took a long time to act at specific situations.
- The most of the producer not documented as it more to routine and not properly defined.
- No clear ownership as long any clear policy/producer to define the bid manager.
- The Three main process of bidding:
 - Evaluation of the bid
 - Purchasing
 - Bidding
- Proposal Building Processes were ad-hoc and with no documentation
- Proposal Building life cycle workshops were conducted to identify all the stages and stockholders of each stage of the lifecycle, but not documented.

- The workshop held by Presales engineer and bid Team invited to present the analysis and to destitute the work, responsibilities and to identify all the business procedures required to carry out at each stage.
- There is a policy and procedure in the organization regarding communication.

The results of IT Policy/Procedure analysis is as follows:

Policy/Procedure			
Status	Existing	Target	Gap
Maturity Level	2	5	3,4,5

7.3.2.2.2 Communication

- The top management is involved when it is required and requested, and during the top management meeting with Sales and Pre Sales Manager.
- The Sales Back office is a centralized communication hub across the whole bid Team.
- There is a policy and procedure in the organization regarding communication form the Sales Back Office.
- No clear internal communication strategy established within the business units, and mostly on an ad-hoc basis based on the bid.

- Participation and communication between bid team is ad-hoc and not consistent. (differ from bid to bid)
- The responsibility for the communication strategy not defined and documented.
- Sales Back office is trying to organize the communication to:
 - To improve bidding process and meet the submission deadline.
 - Improve the communication channels between business units.
- Eliminate barriers to avoid any delay in the proposal submission or at any stage of the bidding process.
- The current communication tools used are:
 - Email System
 - Websites (Internal Portal)
 - Intranets
- Each business units has their own communication strategy based on local activities, no unified communication form organization level.
- The bidding team members communicating for each bid with:
 - Sales Director
 - Sales Manager.
 - Presales Manager
 - Account Manager
 - Project Management Office
 - Services Manager

- Admin Manager
 - Finance Division
 - Presales Engineers
 - Head of Application Development
 - Support Manager
- Bidding Team Members are meeting twice a week for face-to-face update about the bid progress.
 - Communication; not well documented and integrated within the organization structure.
 - Participation in big bids is become more complicated as the communication not well defined.
 - Organization an aims to improve the effectiveness of the communication by defining the communication plan internally and externally.

The results of Communication analysis is as follows:

Communication			
Status	Existing	Target	Gap
Maturity Level	1	4	2,3,4

7.3.2.2.3 Tools

- Organization A implemented different tools to Manage customer's relationship and bid management, where they can have better view and clear decision about the Bid/no-Bid, the tools like

- CRM Application

“IT is an important support tool to Support the organization to have better decision about the bid and more details about the account insight” – Sales Manager

- Different communication tools are introduced and staff has been trained on it to enhance the bidding process within the organization.
- Bid Management collaboration tool introduced among the organization employees, but the utilization what not the effective because of lack of enforcement form the management and clear policy.
- There is no performance management, or monitoring for the status of the bid or bid management.

The results of Tools analysis is as follows:

Tools			
Status	Existing	Target	Gap
Maturity Level	2	5	3,4,5

7.3.2.3 Environment/Culture

7.3.2.3.1 Top Management

- The observation was that the top management strategic thinking and planning are as follows:
 - Directions are defined by The Executive Board Members.
 - Then it is implemented Top - Down.
 - Not always Executive Board Member consults with 2nd Management Layer, Sales Manager, Presales Manager and Admin Manager.
 - 2nd Management Layer is working on the strategic plan to make it reality.
- Annual increments and incentives are provided to employees on the basis of their performance, winning bids, achievements. Attractive incentives are important form Top Management and HR to retain highly qualified employees.
- Top Management not in regular bases meeting the 2nd Management to review the bid progress and performance.
- Top Management just started to review the organization structure to have better alignment with business strategy and framework to have better competitive edge in the ICT Market. This framework presented by the top management shall enhance the communication and alignment between the business units.

- The new framework 2017/2018 will be implemented and it is include organization restructuring.
- Top Management has not visibility about bid participation and analysis.
- Top Management relation with vendors not that storage and effective due to that not effective communication plan or business review session between them, this is affecting the Bid Process when it will reach proposal closing form financial point of view.
- The Executive Board Members and 2nd Management layer of the organization is participating on the mega bid to take strategic direction and influencing the proposal submission.
- Top Management with 2nd Management layer is focusing on three main areas within the new framework global competition; competitive advantage and business process improvement

The results of Management analysis is as follows:

Top Management			
Status	Existing	Target	Gap
Maturity Level	2	5	3,4,5

7.3.2.3.2 Structure:

- The user involvement in the Bid Process improved after the last restructure done on 2010, and expecting more alignment to be done between business units after the new restructure will be done in 2017.
- There is serious problem regarding un-management resources as the de-centralization of functionality or alignment within/between business units is causing effort and work duplication and wasting organization time and effort. This is leading to losing focus and management of the bid quality of work.
- Presales and Sales Unit are well organized and managed as the organization structure are well defined and communication plan and integration also well defined, there is lacking of implementation and following the policy and producers form employees.
- No proper integration/alignment between Administration, Sales Back Office and Sales Team, which lead to lose the focus and control of the Bid process.
- Business units (Presales and Sales Back Office) that exist within the organization have common understanding and agreed procedure for bid process participation and clear roles and responsibility, but this integration not documented.

The results of Structure analysis is as follows:

Structure			
Status	Existing	Target	Gap
Maturity Level	2	5	3,4,5

7.3.2.3.3 Organization Culture

- Each of the business units within Organization A had their own process and there is big resistance for any organizational change.
- Each of business units had their own way of managing bid and not following specific standard which lead to non-consultant work and affect the quality of the work.
- Employee's attitude in each business units when working on same bid is not willing to collaborate effectively, Sales Back office is facing issue when getting team working together and to work successful closing of the bid. As this element in affecting the overall performance of the bid process.
- Less interaction and a lack of information sharing particularly between Application and infrastructure team, which lead of integration and solution integrity issues.
- No data sharing/ collaboration culture exists

- At some levels, each individual has his own processes.

The results of Culture analysis is as follows:

Culture			
Status	Existing	Target	Gap
Maturity Level	1	4	2,3,4

7.3.3 Summary and Finding

- It is identified that the overall of bidding process based on the proposed framework was not properly defined and documented across different areas and criteria. A lot of work can be done to improve the bidding process in order to maximize the agility and enhance the bidding process to achieve the company strategic goal and objective by having competitive solution and state of art offers.
- The inter-link between the framework areas and criteria has been clearly understood from assessment. This ensures that it is necessary to build a complete matrix to enhance the overall organization bidding process maturity.
- The framework gives clear guidance and roadmap to the top management for the next step to enhance the organization bidding maturity level, as well helping them on the next restructuring will be done on 2017.

- After the assessment, it is clear that each of the business units such as the Sales Back office, Administration, Sales, etc. had their own processes in managing Bidding process. The business unity user's attitudes in differ even within the unit.
- Organization A has an excellent structure of Sales and PreSales business unit. However, due to the major restructuring in 2017, where expecting to have more integration between both business units to enhance the communication and business alignment, the major advantage of the new restructuring is the integration with other business units.
- There are lots of works to be done on the policy and procedures documentation, communication and implementation across all business units to unify the effort and procedures, which will help to standardize the bidding process and define the expected outcome, form it.
- It has been observed that the top Management needs to be involved with 2nd Management layer during the bidding process. It has also to be engaged with the vendors to support the Sales Unit during the bidding process.
- There was a policy and procedure for communication and different tools have been implemented. However, the communication was not that effective and there is different step can be done to enhance it and to be more agile.
- A lot of work is needed for the organization A to improve the maturity gap in achieving their business objectives, particularly in the area of process, user involvement and organizational behavior.

- The summary of the assessment of organization A according to the proposed framework model can be found in Table (2)

MATURITY LEVELS		Level (1) Initial	Level (2) Structured and Repeatable	Level (3) Defined	Level (4) Managed	Level (5) Optimizing
People	Staffing		<input checked="" type="checkbox"/>			
	Training & Career development			<input checked="" type="checkbox"/>		
	Competencies & Skills			<input checked="" type="checkbox"/>		
Process	Policy/Procedure		<input checked="" type="checkbox"/>			
	Communication	<input checked="" type="checkbox"/>				
	Tools		<input checked="" type="checkbox"/>			
Environment	Management		<input checked="" type="checkbox"/>			
	Structure		<input checked="" type="checkbox"/>			
	Culture	<input checked="" type="checkbox"/>				

7.4 Case Study (2): Organization B

7.4.1 Background

Organization B was established in 1982 in Kuwait. Organization B has about 1500 employees across all branches in the Gulf region. The HQ has 1000 members amongst Sales, Presales, administration and Support. Where in 1990 the 2nd branch has been established in Riyadh, Saudi Arabia where 250 employees are operating the office. In 1995 the 3rd branch has been opened in Dubai, United Arab Emirates with 150 employees as of 2015. In 2000, Africa branch has been established in Cairo, Egypt with 100 employees.

The Sales and Presales Organization body of the organization B and is responsible for its overall business.

In 2008, the company announced the new vision and strategic goals to be achieved in 2020 by achieving \$1 Billion revenue, by providing state of art ICT solutions in the Gulf region and by expanding to Africa as well. This required more specialization and competitive edge in the IT field to achieve this strategic objective. The company annual turnover is \$550 million as of 2015.

Organization B *Vision*:

To be the WORLD CLASS STRATEGIC SOLUTIONS PROVIDER, for all IT and related business needs across all industries globally.

Organization B *Mission*:

To be a profitable cutting-edge IT and business solutions' provider ensuring the highest standards of quality along with agile delivery and highest level of satisfaction to our shareholders, customers, and employees.

Organization B is one of the leading ICT solutions provider/integrator and services provider offers IT solutions and services that enable large organizations to keep up

to date with the fast growing competitive business Solutions. As technology provider with 36 years of experience in the Gulf region, Organization B has a long, proven and successful track record. Organization B implements cutting-edge ICT solutions for many valued clients throughout the Gulf region. Organization B offered solutions help corporations and organizations to adapt to new ICT technologies that enhance business productivity and agility to enable them to stay ahead of the competition. Organization B delivers a comprehensive portfolio of world class quality solutions and services in a wide range of ICT solutions that focusing on specific industry segments including Education Technologies, Energy and Utilities, Telecommunication, and Financial industry. Organization B portfolio includes of core solutions for each specific industry and ICT solutions such as Enterprise Application Solution, Infrastructure Solutions, ICT Support Services, ICT operations and administration outsourcing, and ICT Managed Services.

Organization B clientele involves of large Banks, Financial companies, telecommunication providers, Oil& GAS companies, and Educational organizations. Organization B is recognized as a trusted ICT market leader, by providing high-quality end-to-end ICT solutions that enable customers to achieve businesses goal and objective. Organization B is focusing on employ team of high-caliber professionals, skilled and have commitment to deliver the required services with high quality standard.

Organization B continually develop and look for strategic partnerships with vendors and international companies from ICT industry to offer their services in the Gulf region, and invest in employees to be trained in order to deliver the best products and solutions.

Organization B has achieved great success in the ICT Gulf market and considered as one of the world-class organizations that have the vision to provide best ICT solutions and services on a Gulf Scale, where Organization B has been recognized by different international firm. Organization B has a strong commitment to their stakeholders, customers, employees and vendor/partners.

In order to Organization B to enhance their market leadership, Organization B continues to have strategic partnerships and alliances with only the best of information technology companies. Organization B investment in people as they launched a software development center located in Cairo, Egypt and they hired 100 fresh graduated students and trained them and create and comprehensive training plan for them.

Organization B team includes the best IT people in the ICT industry that helps in certifying and recognizing the vendor and have a deep understanding of the world class solution and services that can be help the corporations to develop a competitive edge.

“Our people are our greatest asset, and we invest in enhancing their knowledge and skills, and continuously keeping them up to date with latest ICT technological advancements.” Sales Director

At Organization B, well-defined internal processes and business practices that are developed and implemented and have been certified in accordance with internationally recognized firms:

- CMMI L5,
- ISO 9001: 2008 and UK TickIT and
- 27001: 2005 standards.

Organization B went several restructuring phases to adopt the market share and to implement competitive business model, in 2009, the company initiated a mega organizational changes to enhance the level and content of its human resource pool by bringing in a selected group of qualified and experienced personnel.

The case study with Organization B was conducted to validate the framework as key personnel of the Organization B had participated. Where several interviews have been conducted on semi-structure format and open questions. The acceptance and responses from the Organization A personnel was really proactive and positive as the

framework idea attract the Organization B Management as they are looking for continuous improvement for better market share. Interview dates with the staff were set two weeks before the interview. The case study started with an open discussion about the framework idea and followed with one to one interview with selected employees. This interview exercise was held with the top management in the sales organization as the information and bigger picture about the company and strategic direction is more informative with them. Different documents have been reviewed with the employees such as the Bid process, Sales Process, Training process and internal memos related to sales and presales. More than 15 discussion sessions have been conducted. The interviewees for the study, Sales Director, Head of PreSales, Bid Officer, Account Manager, Technical Engineer, HR Manager and Project Manager.

Organization B current business includes a strategic partnership with top ICT vendor in the market (Cisco, Dell, EMC, Oracle, ...) and part of the partnership is to achieve the highest level of certification for their local engineers and support team to provide the comprehensive end to end solution to the customers in Gulf region. According to the Organization B management, competitive solution positioning in ICT market requires new skills, procedure, business approach by adopting, presenting and implementing ICT technologies, and careful investment planning.

This including specific training plan for Organization B team member during specific period of time with collaboration with Vendor. Nonetheless, the company faced difficulties in transforming the conventional team member to adopt the technology trend and to be trained on it to have competitive edge in the ICT Market in Gulf Region. As most of the new tender in the market the clients are focusing on the new ICT trends and technologies and the employees need to be ready to present and response to bid.

The Organization B recognizes the importance of its employee's effective communication during the bidding stage to build the comprehensive response and provide them with the necessary tools for effective communication and

collaboration, where Organization B invested in different tools to enhance the internal communication and collaboration, several tools have been implemented and used by the employees.

The Organization B Sales Organization with Sales and PreSales Managing Director are always committed to continuously improve the Sales Process and developing strategies to attract and retain a high qualified employees and encourage continual professional training and education through the development of employees and organizational culture.

Organization B realized the importance of the IT tools to support the bidding process and they fully adopt and invest on tools for that purpose.

The following section addresses each area and criteria of the framework model within the context of Organization B.

7.4.2 Analysis and Discussion

7.4.2.1 People

7.4.2.1.1 Staffing

- As the organization structure is well defined the observation was the staffing process is not well defined.
- Skills Matrix within each business unit has been identified but not linked to staffing process.
- Gap has been observed between the HR Unit and Business unit when it will come to new hire selection, screening and identification.
- The recruitment process has been identified, written and implemented, but the Skills not linked to it, it is more generic producer.
- Staff members can be dedicated per sector or shared resources.

- Recruitment process is defined and not well implemented by some business units and Managers head and Job position requester.
- Some the units are working as shared resources and they do not have team lead to organize and prioritize the work.
- Key positions, like Sales Back Office Manager/Bid officers are not hired or under staffing which affecting the bidding process and the quality of the work.
- Sales Back Office is one of the most important unit and skills is that critical in the bid process.
- It was claimed by Sales Manager that the organization B had basic Skills screening, the observation was that screening process is an individual process.
- There is plan has been reviewed and waiting the approval form Managing Director to hire the unit head of Sales Back office.
- It was observed that the company realized the need to hire skilled staff to provide competitive ICT solution. Top Management worked with HR for improving their human capital. By not focusing only on training existing staff and improving the learning curve, the company start hiring the best brains in the industry to and injecting new blood within the organization.
- The company is planning to expand their IT Department by employing more technical staff, particularly the systems analyst, business analyst, and programmer.

- The results of Staffing analysis are as follows:

Staffing			
Status	Existing	Target	Gap
Maturity Level	1	4	3,4

7.4.2.1.2 Training and Education

- The training programs conducted throughout the organization including all branches in the Gulf region, and open to all staff.
- The observation was the training topic not always aligned with company strategy.
- Part of the must attend training for all staff are the training related to the internal communication system and tool. Also the training related to specific producers.
- All staff should pass the must attend trainings assessment and it is linked to appraisal system. in order to get the advanced level.
- There is no specific IT training conducted to improve staff IT skills especially how is working on the Sales back office, where the team in the Sales expected to have basic IT Skills and more administration Skills.

- Organization B established Training unit and manager appointed to suggest, coordinate and implement the training courses to new staff, as well the existing staff.
- The Training Unit is maintaining the attendees and the progress of each attendee.
- The training provided, One to one training, workshops, technical training, and soft skills training.
- Training is classified from ad-hoc/basic up to technical and executive training for top management.
- Each training has assessment exam and certification of completion.
- Presales team usually looking for vendor training (external training) as those training is mandatory for them to have latest information about the solution and to keep the organization on the competitive edge in from technical capabilities in the ICT Market.
- The Training policy allowing only the technical staff for external training (outside the organization) to improve their skills and competencies.
- The online training methods are expected to be implemented in the future.
- It is important to the company to make sure that the technical staff and bidding committee are well trained and educated from Technical and Soft Skills and familiar with the bidding process and bidding stages. The

staff provided with on-job training, instructor based training and on-site coaching.

- The Office in Cairo, is providing technical training for new hire staff to enable them to enter the ICT Market.
- HR is communicate and collaborate with the internal training center to ensure the training offered to staff are aligned with employee job discription.
- The training programmers conducted cover a required areas including ICT, management, communication, and leadership.
- It was observed that the organization realized the importance of on-going training and staff development. Top Management worked with HR and Training Center Manager for improving their human assets, where expected to launch online training portal in the first quarter of 2017.
- The results of Training and Education analysis are as follows:

Training and Education			
Status	Existing	Target	Gap
Maturity Level	3	5	4,5

7.4.2.1.3 Competency and Skills

- It was observed that the technical employees take their own initiative to improve their own skills and competencies without discussing it with their line manager and HR, also not linked with educational center.
- To Education Center address skills gap and competencies, the company planning to perform continuous training sessions to reduce the gap and enhance the organizational staff competencies.
- It was clearly observed that the not admin staff gained basic IT skills
- The company is starting to employ a young and dedicated person to fill the IT related position.
- It was observed that the organization realized the need for competency and skills to come with competitive solutions and have excellent edge in the market.
- The company focusing during the new hire on the skilled people where the company is looking to build the attractive environment to ensure that their business objectives are achieved.
- Staff competency and skills are essential for selection and at employee evaluation.
- Part of the annual increments and incentives are provided to staff based on competency and skills. The organization is committed to

continuously having the organization strategy focus on attract high-skilled staff and encourage continues training.

- The Bid Team, presales, does not have some skills in dealing with technology area in the Bid which create real issues
- Project Management office Team had great skills and competencies to deal with project management and planning for small and complex projects.
- It was observed that Organization B does not have enough support/alignment from/with the Vendors Marketing team to implement the required technology Skills and Training Center Manager is working on fixing this part of business alignment.
- It was observed that the there was also a lack of business analysis skills which is essential in the bidding process.
- The admin users acquired a basic skill and knowledge.
- Project Manager who is engaged with the bidding process gain project management skills and the experience needed for solution development.
- PreSales and Sales Back office acquired skills and confidence for bid participation.
- The required skills identified by the Training Manager to participate in the bid in three areas:
 4. basic skills for analysis the bid including essential analysis and define the business requirements skills.

5. skills to provide technical and competitive solution.
 6. Project Management Skills
- Integration of key technical and soft skills is the key initiative by Training Center and to be integrated with HR.

The results of Competency and Skills analysis is as follows:

Competency and Skills			
Status	Existing	Target	Gap
Maturity Level	3	5	4,5

7.4.2.2 Process:

7.4.2.2.1 Policy/Procedure

- It is observed that the Organization B has centralization of the policy and producers to have better control, consistency and management.
- Currently, all policy and producers controlled from Kuwait office. Even the approvals for any request.
- It is clearly observed form the assessment that the HQ is following up about the policy and producer's enforcement and reporting.
- Top management is expected that all employees are practicing and implementing the policy and producers.
- Policy and producers is controlled and managed by Quality office and enforced by Business Unit Manager.

- Every time new bid the organization participating it, the PreSales is managing it and trying to enforce the policy and producers for bid process.
- It is observed that there is no consistency in implementing the policy and producers related to the bidding process, as there is no ownership and accurate following for the policy and producers related to the bidding process.
- Sales Manager and PreSales Manager were unable to ensure quality and consistency of the policy and producers implementation.
- Policies and procedures for managing bid throughout the company are identified and improved based on experience with similar projects and by providing the feedback form PreSales and Sales Manager to Quality office within the organization.
 - The outcome of the bid process is unpredictable particularly when dealing with time and cost, and when there is lack of following up the policy and producers.
- Due to the lack of bidding unit (Sales Back Office) Admin team is allowed to buy the bid/tender only if it is approved by Sales Manager.
- Lacking of Centralized office to manage the bids in the organization even with existence of policy and producers affect the bidding process.
- The sales and presales business units in the organization have clear policy and procedure to manage any bid.

- There is a procedure (policy) to be followed when the bid is distributed to the right team:
 - Bid Analysis
 - Define bid stockholder
 - Define Responsibility Matrix
 - The area of the proposed Solution (software/hardware/services)
 - Proposal building Team Lead
 - Project Management Team Lead
 - Proposal Review
 - Proposal Submission
- PreSales Unit will collect the responses from the team to complete the proposal
- PreSales Unit is defining the deadline to internal submission.
- PreSales Team shall define the solution and required service.
- PreSales has centralized pool of resources across the Gulf region working within clear procedure to distribute the load and as per the solution required.
- There is clear policy for ICT Services shall be included in the proposal, by defining the type of engagement and added value services.
- The role of engagement for internal team policy and producer not well defined when Sales back office distribute the bid/tender.

- The role of engagement for the vendor policy and producer not well defined when Sales back office distribute the bid/tender.
- The role of engagement for Top Management policy and producer not well defined and when it is required, where this lead to that the management took a long time to actat specific situations.
- The most of the producer not documented as it more to routine and not properly defined.
- No clear ownership even there are policy/producer to define the bid manager under not availability of Sales Back office.
- Proposal BuildingProcesses were ad-hoc and with no documentation
- Proposal Building life cycle workshops were conducted to identify all the stages and stockholders of each stage of the lifecycle, but not documented.
- The workshop held by PreSales engineer and bid Team invited to present the analysis and to destitute the work, responsibilities and to identify all the business procedures required to carry out at each stage.
- There is a policy and procedure in theorganization regarding communication.

The results of IT Policy/Procedureanalysis is as follows:

Policy/Procedure			
Status	Existing	Target	Gap
Maturity Level	2	5	3,4,5

7.4.2.2.2 Communication

- It was clearly noticed that the organization B adopt several communication solution to enhance the communication between the business units.
- There was a lack of communication with senior management on the right time to take the right decision.
- Organization B established communication matrix with clear responsibilities and ownership.
- Bidding Team has clear understanding about the commutation matrix and the relationship between business units.
- The senior management enforce staff to utilize the communication tools to ensure the smooth running of bidding processes.
- It was observed that par to the team still communicating regarding the bidding activities manual/verbal methods.
- It is must all communication related to the bid between bid team to be through the bidding manager and copy him on all communication.
- The communication between the vendor and bid manager and presales are documented and Sales Manager always copied.
- Beside the communication tools, the communications using paper work like memos and letters and physical and online meetings was still available.

- The Top management sometimes to communicate to the bid team directly for specific bid action required through emails and meetings. The top management's comment on and answer any question from the bid team through email.
- E-mails played a main role as a communication channel between the organization employees and bid team.
- The top management also started to express and utilize the other communication tools and methods like video conferencing and internal portal to motivate the employees to utilize it.
- It is observed that an internal portal has been built to be:
 - Centralized document Management tools
 - Enhance the communication between business units
 - Provide Document tracking and versioning.
- Training has been conducted for all staff members for the internal portal and how to be utilized.
- The top management is involved when it is required and requested, and during the top management meeting with Sales and Pre Sales Manager.
- The Sales Back office is a centralized communication hub across the whole bid Team.
- There is a policy and procedure in the organization regarding communication form the Sales Back Office.

- No clear internal communication strategy established within the business units, and mostly on an ad-hoc basis based on the bid.
- Participation and communication between bid team is ad-hoc and not consistent. (differ from bid to bid)
- The responsibility for the communication strategy not defined and documented.
- Sales Back office is trying to organize the communication to:
 - To improve bidding process and meet the submission deadline.
 - Improve the communication channels between business units.
- Eliminate barriers to avoid any delay in the proposal submission or at any stage of the bidding process.
- The current communication tools used are:
 - Email System
 - Websites (Internal Portal)
 - Intranets
- Each business units has their own communication strategy based on local activities, no unified communication form organization level.
- The bidding team members communicating for each bid with:
 - Sales Director
 - Sales Manager.
 - PreSalse Manager
 - Account Manager

- Project Management Office
 - Services Manager
 - Admin Manager
 - Finance Division
 - PreSales Engineers
 - Head of Application Development
 - Support Manager
- Bidding Team Members are meeting twice a week for face-to-face update about the bid progress.
 - Communication; not well documented and integrated within the organization structure.
 - Participation in big bids is become more complicated as the communication not well defined.
 - Organization A aims to improve the effectiveness of the communication by defining the communication plan internally and externally.

The results of Communication analysis is as follows:

Communication			
Status	Existing	Target	Gap
Maturity Level	3	4	2,3,4

7.4.2.2.3 Tools

- It is clear that are several tools have been acquired by organization B to:
 - Enhance the commutation
 - Document management Solution
 - Support bidding process “Bid Management”
 - Customer Relationship Management
 - SalesForce Management.
- The tools provide great added value to the organization, such as:
 - Anyone at anywhere can access the bid file and participate in the bid, communicate with the team, get the update and upload and updated files.
 - Provide high Availability for Bid Documents.
 - Provide documents versioning and control.
 - Get access to the standard bid templates, proposals, RFPs and responses.
 - Provide Project Management Office access to all required projects and bids/Tenders files and documents.
 - Unify and standardized the process of Bid Management
- Top Management realized the importance Information Technology (IT) within the organization to provide stable and reliable support tool to the organization.

- The IT department (as support function to the sales organization) is trying to acquire flexible and reliable tools that support the organization sales, presales and bidding units.
- Organization B implemented different tools to Manage customer's relationship as well and integrated with bid management and document management system as well, where they can have better view about customer power map then make clear decision about the Bid/no-Bid, the tools like CRM Application (Salesforce).

“IT is an important Salesforce tool to Support the organization to have better decision making about the bid and full details about the customers by knowing the account insite” – Sales Manager

- Different communication tools are introduced and staff has been trained on it to enhance the bidding process within the organization.
- Bid Management collaboration tool introduced among the organization employees, but the utilization what not the effective because of lack of enforcement form the management and clear policy.
- There is no performance management, or monitoring for the status of the bid or bid management.
- There is an issue relating to the consistency of information storage and retrieval organization-wide. Everyone has their own separate directory and lack of information sharing is obviously emerging. Information queries from the London office take time for a response. The other issue was that all the documents were saved in individual standalone PC, and therefore it took time to get the information needed, and the

possibility of lost documents was relatively high. To solve this problem, the management decided to develop a centralized database that was accessible within the company.

The results of Tools analysis is as follows:

Tools			
Status	Existing	Target	Gap
Maturity Level	3	5	3,4,5

7.4.2.3 Environment/Culture

7.4.2.3.1 Top Management

- The Top management of the organization B established a strategic thinking group of Sales and Presales to review and enhance the bidding process.
- Top Management established group to review over all organization performance, business plan, resources needed, policies, producers, staff, training, tools, development, equipment, and identifying opportunities, weakness and risks to the organization business.
- Senior Managers are responsible for defining the business needs, gap and solutions.
- HR Management got awarded twice form Board Members for excellent performance and effort to retain the existing employees and

for developing the human capital with coordination with the training unit.

- The top management are heavily depended on the vendor by building strategic relationship with them to better support during the tenders/bids.
- Top Management had great alignment with vendors to ensure win-win situation form performing the strategic vision and goal for the organization and vendor.
- The observation was that the top management strategic thinking and planning are as follows:
 - Directions are defined by The Executive Board Members.
 - Then it is implemented Top - Down.
 - Not always Executive Board Member consult with 2nd Management Layer, Sales Manager, PreSales Manager and Admin Manager.
 - 2nd Management Layer is working on the strategic plan to make it reality.
- Annual increments, and incentives are provided to employees on the basis of their performance, winning bids, achievements. Attractive incentives are important form Top Management and HR to retain highly qualified employees.
- Top Management not in regular bases meeting the 2nd Management to review the bid progress and performance.

- Top Management just started to review the organization structure to have better alignment with business strategy and framework to have better competitive edge in the ICT Market. This framework presented by the top management shall enhance the communication and alignment between the business units.
 - The new framework 2017/2018 will be implemented and it is including organization restructuring.
 - Top Management has good visibility about bid participation and analysis.
 - Board Members relation with vendors not that storage and effective due to that not effective communication plan or business review session between them, this is affecting the Bid Process when it will reach proposal closing form financial point of view.
 - The Executive Board Members and 2nd Management layer of the organization is participating on the mega bid to take strategic direction and influencing the proposal submission.
 - Top Management with 2nd Management layer is focusing on three main areas within the new framework global competition; competitive advantage and business process improvement

The results of Management analysis is as follows:

Top Management			
Status	Existing	Target	Gap
Maturity Level	3	5	4,5

7.4.2.3.2 Structure:

- There are issues of who is really responsible for what in the bid/tender process due to lack of Sales Back office.
- The newly created ITUnit and the IT Manager was allocated with the integration with other organizational structure facilitate a lot of systems and tools for bid process.
- It is observed that the new IT unit is small comparing it to the size of the organization and geographical locations.
- It is observed from reviewing the organizational structure that the Sales Back office business functionally is not exist.
- The role and responsibility of the Sales back office are carried out by PreSales unit, which add more workload on the PreSales team and this affecting the quality of work and employee's performance.
- The staff of IT Department consists of 4 employees in the HQ in Kuwait:
 - The IT Manager
 - 3 technicians
- The awareness of the importance of employee's involvement of evaluating and enhancing the internal process is increasing among the senior management.

- Only selected senior employees from Sales, PreSales and adminare consulted to give an ideas and feedback to enhance the existing processes and producers.
- The user involvement in the Bid Process improved after the last restructure done on 2010, and expecting more alignment to be done between business units after the new restructure will be done in 2017.
- There is serious problem regarding un-management resources as the de-centralization of functionality or alignment within/between business units is causing effort and work duplication and wasting organization time and effort. This is leading to losing focus and management of the bid quality of work.
- PreSales and Sales Unit are well organized and managed as the organization structure are well defined and communication plan and integration also well defined, there is lacking of implementation and following the policy and producers form employees.
- No proper integration/alignment between Administration, Sales Back Office and Sales Team, which lead to lose the focus and control of the Bid process.
- Business units (PreSales and Sales Back Office) within the organization has common understanding and agreed procedure for bidprocess participation and clear roles and responsibility, but this integration not documented.

The results of Structure analysis is as follows:

Structure			
Status	Existing	Target	Gap
Maturity Level	2	5	3,4,5

7.4.2.3.3 Organization Culture

- The relationship between groups was improved by enhancing the communication in terms of solving the problems during the bidding process.
- There was a gap between the two main groups of users existing in the bidding process ; Presales and service business unit, where support unit is continuously demand for more services to be injected in the bid.
- Everyone had their own way in managing information and used a different approach in performing common work tasks such as storing project information in different files and directories.
- The distribution and sharing of information within the bidding team took a long time and sometime done manually on individual bases, which lead to not sharing the information with right team on the right time and his lead to culture habit existing within the organization.
- The possibility of document loss, outdated and over right is high.
- Persons without authority were able to access confidential documents and information related to the bids.

- Employees over all not willing to perform other unit job (Sales Back Office) and this create big resistance and performance issue during the bidding process.
- The top management start involving staff in the continues improvement process.
- The interaction and relationships between the users and IT staff is improving in parallel with the IT department expansion in the future. Each of the business units within Organization B had their own process and there is big resistance for any organizational change.
- Each of business units had their own way of managing bid and not following specific standard which lead to non-consultant work and affect the quality of the work.
- Employee's attitude in each business units when working on same bid are not willing to collaborate effectively, Sales Back office is facing issue when getting team working together and to work successful closing of the bid. As this element in affecting the over all performance of the bid process.
- Less interaction and a lack of information sharing particularly between Application and infrastructure team, which lead of integration and solution integrity issues.
- No data sharing/ collaboration culture exists
- At some levels, each individual has his own processes.

The results of Culture analysis is as follows:

Culture			
Status	Existing	Target	Gap
Maturity Level	2	4	3,4

7.4.3 Summary and Findings

- It is identified that the overall of bidding process based on the proposed framework was in moderate stages, where overall it quite well defined and documented across different areas and criteria. Definitely there are work can be done to improve the bidding process in order to maximize the agility and enhance the bidding process to achieve the company strategic goal and objective by having competitive solution and state of art offers.
- It is clear from the assessment the interlink between the framework areas and criteria, which is building complete matrix to enhance the overall organization bidding process maturity.
- The framework gives clear guidance and roadmap to the top management for the next step to enhance the organization bidding maturity level, and help the internal committees of reviewing the existing processes to have continuers improvement framework.

- After the assessment, it is clear that each of the business units such as Administration, Sales, presales etc. had their own processes as well in managing Bidding process beside the organization process, and this due to the culture where the business unity user's attitudes in differ even within the unit.
- Organization B has an excellent structure of Sales and PreSales business unit. However, due to the missing of the Sales Back office, expecting to have more integration between both business units after establhing the Sales Back Office, to enhance the communication and business alignment, the major advantage of the new restructuring is the integration with other business units.
- There are a lot of work to be done on the policy and procedures documentation, communication and implementation across all business units to unify the effort and procedures, which will help to standardize the bidding process and define the expected outcome form the it.
- It observed that the Board Members need to be involved with senior Management layer during the bidding process. Also to have more engagement with vendors to support the Sales Unit during the bidding process.
- There was a policy and procedure for communication and different tools have been implemented. However, the communication was not

that effective and there is different step can be done to enhance it and to be more agile.

- A lot of work is needed for the organization B to improve the maturity gap in achieving their business objectives, particularly in the area of process, user involvement and organizational behavior.
- Overall processes for the proposed framework are (level 3) this is good indication that a lot of effort has been done by the organization.
- The summary of the assessment of organization B according to the proposed framework model can be found in Table (2)

MATURITY LEVELS		Level (1) Initial	Level (2) Structured and Repeatable	Level (3) Defined	Level (4) Managed	Level (5) Optimizing
People	Staffing	<input checked="" type="checkbox"/>				
	Training & Career development			<input checked="" type="checkbox"/>		
	Competencies & Skills			<input checked="" type="checkbox"/>		
Process	Policy/Procedure		<input checked="" type="checkbox"/>			
	Communication			<input checked="" type="checkbox"/>		
	Tools			<input checked="" type="checkbox"/>		
Environm	Management			<input checked="" type="checkbox"/>		
	Structure			<input checked="" type="checkbox"/>		

	Culture		<input checked="" type="checkbox"/>			
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7.5 Case Study 3: Organization C

7.5.1 Background

The selection of Organization C was based on the size of the company and geographical presence worldwide, as Organization C is a global ICT leader worldwide, they are focusing in enabling businesses and service providers to transform their business model to be information technology as a service (ITaaS) by adopting the cloud computing solutions. Organization C is providing an innovative products and services and helping customers to accelerate the implementation of cloud computing and helping ICT departments implement and manage it in a more agile, trusted and cost-efficient way.

Organization C was established in 1979 in US and has office in more than 80 countries and more than 59,000 employees, and work with customers around the world, in all industries as public and private.

Organization C differentiated from others by significant investment in research and development (R&D), and acquisitions as more than \$16 billion invested to acquire new startups and companies. Organization C is supported by thousands of research and development (R&D) employees.

In 2013, Organization C awarded by Technology Services Industry Association for service excellence and Innovation. Organization C ranks by Fortune 500 as 128. The reported revenues in 2014 was \$24.4 billion in 2014.

Regarding Organization C presence in the Gulf region, the Gulf regional office is based in Dubai, United Arab Emirates, where they do have more than 500 employees and they do have offices in Saudi Arabia, Qatar, Kuwait Oman and Bahrain, with more than 2000 employees and professional implementation engineer.

Sales and PreSales Unit is the first biller of the organization, where In2011, the company announced the new vision and strategic goals of ICT Cloud transformation by providing state of art ICT solutions. This required more specialization and competitive edge in the IT field to achieve this strategic objective, for that the company launch internal trainings program to transform their Sales and PreSales to be ready to position and execute the new strategy.

This case study is tackling only the Gulf Region offices of the Organization C, taking in consolidation the global systems, policy, producer and tools as those are centralized form Global HQ and customized per region.

As one of the leading ICT solutions and services provider offers IT solutions and services that enable large organizations to keep up to date with the fast growing competitive business Solutions. As technology provider with 37 years of experience in the Gulf region, Organization C has a long, proven and excellent track record in the Gulf Region as they established the business in 1990. Organization C implement cutting-edge ICT solutions for many valued clients throughout the Gulf region. Organization C offered solutions help corporations and organizations to adapt to new ICT technologies that enhance business productivity and agility to enable them to stay ahead of the competition. Organization C delivers a comprehensive portfolio of world class quality solutions and services in a wide range of ICT solutions that focusing on specific industry segments including Education Technologies, Energy and Utilities, Telecommunication, and Financial industry, Government, and retail business. Organization C portfolio includes of core solutions for each specific industry and ICT solutions such as Enterprise Data Center Solution, Infrastructure Solutions, ICT Support Services, ICT operations and administration outsourcing, ICT Managed Services, Cloud solution, and Converge Infrastructure.

Organization C clients are form all market sectors which involves of telecommunication providers, Government, Banks, Financial Services, Oil & GAS, Educational institutes, and retail.

Organization C is recognized as a trusted ICT market leader, by providing high-quality state of art ICT solutions that enable customers to achieve businesses goal and objective by focusing on ICT Transformation to implement “X as a Services”

strategy. Organization C is focusing on the human capital as it is considered # 1 factor to key success, for that they employ high-caliber professionals, skilled and for that they have commitment to deliver the required services with high quality standard.

Organization C continually develops and looks for strategic partnerships with echo-partners from the ICT industry to offer end-to-end solutions with seamless integration on built form factory to ensure the integrity and after implementation support, for that they invest in employees to be trained in order to deliver the best services and solutions.

Organization C has achieved great success in the ICT Gulf market and is considered as one of the world-class organizations that have the vision to provide best ICT solutions and services on a Gulf Scale, where Organization C has been recognized by different international firms. Organization C has a strong commitment to their stakeholders, customers, employees and vendors/partners. Also Organization C staff has been recognized as the best caliber in the Gulf region.

In order for Organization C to be a leader and improve their market leadership and market share, Organization C continues to have maintain a high level of alliances with echo-partners and joint efforts for integration and development to offer state of art with seamless integration. Organization C invests heavily in people as they have launched different centers of excellence across the globe and they are offering intensive training programs for the staff as mandatory and optional. Also they do have fresh graduated students as associate engineers to be trained and to be ready for the market.

Organization C team includes the best IT people in the ICT industry that are certified and recognized from different ICT firms, and they do have a deep understanding of what the world class solution and services that can help corporations to have a competitive edge to provide world class ICT services.

At Organization C, well-defined internal processes and business practices that are developed and implemented and have been certified in accordance with internationally recognized firms:

- ISO 9001: 2008

- ISO 20000
- ITEL
- PMI Standard
- 27001: 2005 standards.

The case study with Organization C was conducted to validate the framework on large organization, as key personnel of the Organization Chad participated. Where several interviews have been conducted on semi-structure format and open questions. The acceptance and responses from the Organization C personnel was really proactive and positive as the framework idea attract the Organization C Management as they are looking for continuous improvement for better market share. Interview dates with the staff were set two weeks before the interview. The case study started with an open discussion about the framework idea and followed with one to one interview with selected employees. This interview exercise was held with the top management in the sales organization as the information and bigger picture about the company and strategic direction is more informative with them. Different documents have been reviewed with the employees such as the Bid process, Sales Process, Training process and internal memos related to sales and presales. More than 20 discussion sessions have been conducted. The interviewees for the study, Sales Director, Head of PreSales, Bid Officer, Account Manager, Technical Engineer, HR Manager and Project Manager.

According to the Organization C management, state of art and competitive solution positioning in ICT market requires new skills, new way of business rethinking and position, procedure, business needs, and new way of presenting ICT technologies with integration with echo-partners.

This including specific training plan for Organization C team member during specific period of time with collaboration with internal business units as part of the training is mandatory. Nonetheless, the company faced difficulties in transforming the conventional team member to adopt the technology trend and to be trained on it to have competitive edge in the ICT Market in Gulf Region. As most of the new tender

in the market the clients are focusing on the new ICT trends and technologies and the employees need to be ready to present and response to bid.

The Organization C recognizes the importance of its employee's effective communication and collaboration during the bidding and solution building stage to build the comprehensive response and provide them with the necessary tools for effective communication and collaboration, where Organization C invested in different tools to enhance the internal communication and collaboration. Organization C realized the importance of the IT tools to support the bidding process and they fully adopt and invest on tools for that purpose.

The Organization C Sales Organization has regular review of the Sales progress as they do have documented sale policy and procedures and Sales Management are always committed to continuously improve the Sales Process and developing strategies to attract and retain a high qualified employees and encourage continual professional training and education through the development of employees and organizational culture.

The following section addresses each area and criteria of the framework model within the context of Organization C.

7.5.2 Analysis and Discussion

7.5.2.1 People

7.5.2.1.1 Staffing

- As the organization structure is well defined the observation was the staffing process is well defined.
- Skills Matrix within each business unit has been identified and will linked to staffing process.

- Any gap in the organization form staffing and head count is identified quickly by HR Unit and Business unit.
- HR has strong selection, screening and identification process.
- The recruitment process has been identified, written and implemented, and linked to Skills and competencies.
- Staff members can be dedicated per sector or shared resources (Locally and Globally).
- Recruitment process is defined and well implemented by all business units and Managers head and Job position requester.
- The organization structure is well defined and documented and each positing has accurate job function to be integrated with the structure.
- Key positions, like Sales Back Office Manager/Bid officers are exist and hired where those job function adding big value to the bidding process, and affecting the bidding process and the quality of the work.
- Sales Back Office is one of the most important unit and skills is that critical in the bid process, staffing and skills screening has been identified by HR unit.
- Sales Manager in the organization C had clear system to follow for Skills screening, the observation was that screening process is well documented and automated through the HR System.
- It was observed that the hiring, selection, short listing processes need unit head director.

- It was observed that the company realized the need to hire skilled staff to provide competitive ICT solution. Top Management worked with HR for improving their human capital. By not focusing only on training existing staff and improving the learning curve, the company start hiring the best brains in the industry to and injecting new blood within the organization.
- The company is planning to expand their IT Department by employing more technical staff, particularly the systems analyst, business analyst, and programmer.
- The results of Staffing analysis are as follows:

Staffing			
Status	Existing	Target	Gap
Maturity Level	4	5	5

7.5.2.1.2 Training and Education

- The training programs conducted throughout the organization including all branches in the Gulf region, and open to all staff.
- The observation was the training topic always aligned with company strategy.

- Part of the must attend training for all staff are the training related to the internal communication system and tool. Also the training related to specific producers.
- Technical Team has Quarterly Must Technical Training and they have to pass the assessment exam.
- All staff should pass the must attend trainings assessment and it is linked to appraisal system. in order to get the advanced level.
- There is specific IT training conducted to improve staff IT skills especially how is working on the Sales back office, where the team in the Sales expected to have basic IT Skills and more administration Skills.
- Organization Chad dedicated Training unit to suggest, coordinate and implement the training courses to new staff, as well the existing staff.
- The Training Unit is maintaining the attendees and the progress of each attendee.
- The training provided, online training, workshops, technical training, and soft skills training.
- Training is classified form ad-hoc/basic up to technical and executive training for top management.
- Training progress and achievement is maintained online and reported to HR and Unit.
- Presales team usually looking for specialty training topics as those training is mandatory for them and assigned by unit manager for the

specialty program to be taken, which will keep the organization on the competitive edge in from technical capabilities in the ICT Market.

- The Training policy allowing the technical staff for external training (outside the organization) to improve their skills and competencies.
 - It is important to the company to make sure that the technical staff and bidding committee are well trained and educated from Technical and Soft Skills and familiar with the biding process and biding stages. The staff provided with on-job training, instructor based training and on-site coaching.
 - HR is communicating and collaborate with the internal training unit to ensure the training offered to staff are aligned with employee job discription.
 - The training programmers conducted cover all required areas including ICT, management, communication, and leadership.
 - It was observed that the organization realized the importance of on-going training and staff development, Top Management worked with HR and Training Unit for improving their human assets, where they do have Education Tube (videos) for on demand access anytime anywhere.
- The results of Training and Education analysis are as follows:

Training and Education			
Status	Existing	Target	Gap

Maturity Level	4	5	5
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7.5.2.1.3 Competency and Skills

- It was observed that the technical employees take following the online HR system to improve their own skills and competencies with discussing it with their line manager and HR, also linked with educational center.
- HR Unit with coordination with Quality office and Legal office sending for all employees must attend training and about Information Security.
- To Education Center address skills gap and competencies for each employee, the company perform continuous training sessions to reduce the gap and enhance the organizational staff competencies.
- It was clearly observed that admin staff are gained basic IT skills and provided with required trainings to support.
- It was observed that the organization realized the need for competency and skills to come with competitive solutions and have excellent edge in the market.
- The company focusing during the new hire on the skilled people where the company is looking to build the attractive environment to ensure that their business objectives are achieved.

- Staff competency and skills are essential for selection and at employee evaluation.
- Part of the annual increments and incentives are provided to staff based on competency and skills. The organization is committed to continuously having the organization strategy focus on attract high-skilled staff and encourage continues training.
- The Bid Team, presales, does have required skills in dealing with technology area in the Bid which create real issues
- Project Management Office Team had great skills and competencies to deal with project management and planning for small and complex projects.
- It was observed that Organization C does have enough support/alignment from/with the Marketing team with go-to-market strategy and all required technology Skills and Training, and Education Center is working on providing the required online training with alignment business.
- It was observed that the there was also a clear business analysis for skills which is essential in the bidding process.
- Project Manager who is engaged with the bidding process has project management skills and the experience needed for solution development.
- PreSales and Sales Back office acquired skills and confidence for bid participation.

- The required skills identified by the Training Manager to participate in the bid in three areas:
 - basic skills for analysis the bid including essential analysis and define the business requirements skills.
 - skills to provide technical and competitive solution.
 - Project Management Skills
- Integration of key technical and soft skills is the key initiative by Training Center and to be integrated with HR.

The results of Competency and Skills analysis is as follows:

Competency and Skills			
Status	Existing	Target	Gap
Maturity Level	5	5	-

7.5.2.2 Process:

7.5.2.2.1 Policy/Procedure

- It is observed that the Organization C has centralization of the policy and producers to have better control, consistency and management.
- Currently, all policy and producers controlled from US office. The approvals for any request is coming locally form the line manager.
- It is clearly observed form the assessment that the HQ is following up about the policy and producer's enforcement and reporting.

- Top management is expected that all employees are practicing and implementing the policy and producers and following-up on that through reporting tools and training provided online about policies and producers.
- Policy and producers is controlled and managed by Quality and legal office and enforced by Business Unit Manager.
- Every time new bid the organization participating it, the PreSales is managing it and trying to enforce the policy and producers for bid process.
- It is observed that there is consistency in implementing the policy and producers related to the bidding process, as there is ownership and accurate following for the policy and producers related to the bidding process.
- Sales Manager and PreSales Manager were able to ensure quality and consistency of the policy and producers implementation.
- Policies and procedures for managing bid throughout the company are identified and improved based on experience with similar projects and by providing the feedback form PreSales and Sales Manager to Quality office within the organization.
- The outcome of the bid process is predictable at any time, as there are clear Policies and procedures to be followed and implementing it is monitored and reported.

- The power of Centralized office to manage the bids in the organization even with existence of policy and producers affect the bidding process.
- The sales and presales business units in the organization have clear policy and procedure to manage any bid.
- There is a procedure to be followed when the bid is distributed to the right team:
 - Bid Analysis
 - Define bid stockholder
 - Define Responsibility Matrix
 - The area of the proposed Solution (software/hardware/services)
 - Proposal building Team Lead
 - Project Management Team Lead
 - Proposal Review
 - Proposal Submission
- PreSales Unit will collect the responses from the team to complete the proposal
- PreSales Unit is defining the deadline to internal submission.
- PreSales Team shall define the solution and required service.
- PreSales has centralized pool of resources across the EMEA region working within clear procedure to distribute the load and as per the solution required.

- There is clear policy for ICT Services shall be include it in the proposal, by defining the type of engagement and added value services.
- The role of engagement for internal team policy and producer well defined when Sales back office distribute the bid/tender.
- The role of engagement for the echo-partner's policy and producer well defined when Sales back office distribute the bid/tender.
- The role of engagement for Top Management policy and producer well defined and when it is required, where this lead to that the management fast actat specific situations.
- All producers documented as it more to routine and properly defined.
- Clear ownership defined in the policy/producer for bid management and defining the bid manager.
- Proposal BuildingProcesses were clearly defined with documentation
- Proposal Building life cycle workshops were conducted to identify all the stages and stockholders of each stage of the lifecycle, and documented.
- The workshop held by PreSales engineer and bid Team invited to present the analysis and to destitute the work, responsibilities and to identify all the business procedures required to carry out at each stage.
- There is a policy and procedure in theorganization regarding communication.

The results of IT Policy/Procedureanalysis is as follows:

Policy/Procedure			
Status	Existing	Target	Gap
Maturity Level	4	5	5

7.5.2.2.2 Communication

- It was clearly noticed that the organization C adopt several state of art communication solution to enhance the communication between the business units.
- The communication with senior management always on the right time to take the right decision.
- Organization C established communication matrix with clear responsibilities and ownership.
- Bidding Team has clear understanding about the commutation matrix and the relationship between business units.
- The senior management enforce staff to utilize the communication tools to ensure the smooth running of bidding processes.
- It was observed that par to the team still communicating regarding the bidding activities manual/verbal methods.
- It is must all communication related to the bid between bid teamto be through the bidding manager and copy him on all communication.

- The communication between the echo-partners and bid manager and presales are documented and Sales Manager always copied.
- Beside the communication tools, the communications using paper work like memos and letters and physical and online meetings was still available.
- The Top management always communicate with bid team directly for specific bid action required through emails and meetings. The top management's comment on and answer any question from the bid team through email.
- E-mails played a main role as a communication channel between the organization employees and bid team.
- The top management also started to express and utilize the other communication tools and methods like video conferencing, Webex, Skype and internal portal to motivate the employees to utilize it.
- It is observed that an internal portal has been built to be:
 - Centralized document Management tools
 - Enhance the communication between business units
 - Provide Document tracking and versioning.
 - Proposal building
 - RFP building
 - Technical documents.
- Training has been conducted for all staff members for the internal portal and how to be utilized.

- The top management is involved when it is required and requested, and during the top management meeting with Sales and Pre Sales Manager.
- There is a policy and procedure in the organization regarding communication regarding the bidding process and workflow.
- There is clear internal communication strategy established within the business units, and mostly on an ad-hoc basis based on the bid.
- Participation and communication between bid team members is consistent and following the company procedure.
- The responsibility for the communication strategy is defined and documented.
- PreSales is mastering and organizing the communication to:
 - To improve bidding process and meet the submission deadline.
 - Improve the communication channels between business units.
 - Eliminate barriers to avoid any delay in the proposal submission or at any stage of the bidding process.
- The current communication tools used are:
 - Email System
 - Websites (Internal Portal)
 - Intranets
 - Webex
 - Skype

- All business units have one communication strategy based on globe standard across the organization, unified communication form organization level.
- The bidding team members communicating for each bid with:
 - Sales Director
 - Sales Manager.
 - PreSales Manager
 - Account Manager
 - Project Management Office
 - Services Manager
 - Admin Manager
 - Finance Division
 - PreSales Engineers
 - Head of Application Development
 - Support Manager
- Bidding Team Members are meeting twice a week for face-to-face update about the bid progress.
- Communication; well documented and integrated within the organization structure.
- Participation in big bids is become easier based on the well-defined procedure as the communication well defined.

- Organization C aims to improve the effectiveness of the communication by defining the communication plan internally and externally.

The results of Communication analysis is as follows:

Communication			
Status	Existing	Target	Gap
Maturity Level	4	5	5

7.5.2.2.3 Tools

- It is clear that are several tools have been acquired by organization C to:
 - Enhance the commutation
 - Document management Solution
 - Support bidding process “Bid Management”
 - Customer Relationship Management
 - Sales Force Management.
 - Proposal and RFP Builder
- The tools provide great added value to the organization, such as:
 - Enhance the quality of service and consistency
 - Anyone at anywhere can access the bid file and participate in the bid, communicate with the team, get the update and upload and updated files.

- Provide high Availability for Bid Documents.
 - Provide documents versioning and control.
 - Get access to the standard bid templates, proposals, RFPs and responses.
 - Provide Project Management Office access to all required projects and bids/Tenders files and documents.
 - Unify and standardized the process of Bid Management
- Top Management realized the importance Information Technology (IT) within the organization to provide stable and reliable support tool to the organization.
 - The IT department (as support function to the sales organization) is acquiring the best of class and reliable tools that support the organization sales, presales and bidding units.
 - Organization C implemented different tools to Manage customer's relationship as well and integrated with bid management and document management system as well, where they can have better view about customer power map then make clear decision about the Bid/no-Bid, the tools like CRM Application (Salesforce).
 - Different communication tools are introduced and staff has been trained on it to enhance the bidding process within the organization.
 - Bid Management collaboration tool introduced among the organization employees, the utilization of the tool is high and showing

the staff awareness and willing to provide the best of class solution and bid submission.

- There is performance management and monitoring solution for the status of the bid status, bid work progress and result.
- Everyone has their own workspace online and can share information with any employee within the organization. All the documents were saved in staff laptops and had automatic backup and automatic synchronization on cloud storage for anytime anywhere access.

The results of Tools analysis is as follows:

Tools			
Status	Existing	Target	Gap
Maturity Level	4	5	5

7.5.2.3 Environment/Culture

7.5.2.3.1 Top Management

- The Top management of the organization established a strategic thinking group of Sales and Presales to review and enhance the bidding process.
- Top Management established group to review over all organization performance, business plan, resources needed, policies, producers,

staff, training, tools, development, equipment, and identifying opportunities, weakness and risks to the organization business.

- Senior Managers are responsible for defining the business needs, gap and solutions.
- HR Management got awarded twice form Board Members for excellent performance and effort to retain the existing employees and for developing the human capital with coordination with the training unit.
- The top management are heavily depended on the vendor by building strategic relationship with them to better support during the tenders/bids.
- Top Management had great alignment with vendors to ensure win-win situation form performing the strategic vision and goal for the organization and vendor.
- The observation was that the top management strategic thinking and planning are as follows:
 - Directions are defined by The Executive Board Members.
 - Then it is implemented Top - Down.
 - Not always Executive Board Member consult with 2nd Management Layer, Sales Manager, PreSales Manager and Admin Manager.
 - 2nd Management Layer is working on the strategic plan to make it reality.

- Annual increments, and incentives are provided to employees on the basis of their performance, winning bids, achievements. Attractive incentives are important form Top Management and HR to retain highly qualified employees.
- Top Management not in regular bases meeting the 2nd Management to review the bid progress and performance.
- Top Management just started to review the organization structure to have better alignment with business strategy and framework to have better competitive edge in the ICT Market. This framework presented by the top management shall enhance the communication and alignment between the business units.
 - The new framework 2017/2018 will be implemented and it is including organization restructuring.
 - Top Management has good visibility about bid participation and analysis.
 - Board Members relation with echo-partner storage and effective where they do have effective communication plan or business review session between them, this is affecting the Bid Process when it will reach proposal closing form financial point of view.
 - The Top management and 2nd Management layer of the organization is participating on the mega bid to take strategic direction and influencing the proposal submission.

- Top Management with 2nd Management layer is focusing on three main areas within the new framework global competition; competitive advantage and business process improvement

The results of Management analysis is as follows:

Top Management			
Status	Existing	Target	Gap
Maturity Level	4	5	5

7.5.2.3.2 Structure:

- Responsibility is clear and well defined for bid/tender process as the organizational structure is clear and roles and responsibilities are defined.
- The IT Unit was defined with the integration with other organizational structure facilitate a lot of systems and tools for bid process.
- It is observed how IT unit is effective and provide key logistics and support for the organization and among the geographical office and locations.
- It is observed form reviewing the organizational structure that the Sales Back office business functionally is not exist where the PreSales Unit is handling the responsibility for Bid Management with coordination with Sales Unit.

- The role and responsibility of the Sales back office are carried out by PreSales unit, which add more workload on the PreSales team and this affecting the quality of work and employee's performance, and for avoid negative affect, PreSales not allowed to handle extra task that beyond his capabilities.
- The awareness of the importance of employee's involvement of evaluating and enhancing the internal process is increasing among the senior management.
- Only selected senior employees form Sales, PreSales and adminare consulted to give an ideas and feedback to enhance the existing processes and producers.
- Members of the steering committee consist of over twenty staff ranging through all levels, spreads of skills and aptitudes, and from all offices (including the partners to administrative staff) of the practice.
- PreSales and Sales Unit are well organized and managed as the organization structure are well defined and communication plan and integration also well defined, there is lacking of implementation and following the policy and producers form employees.
- There is proper integration/alignment between Administration, Sales Team and PreSales Team, which lead to focus and control of the Bid process.
- Business units (PreSales and Sales) within the organization has common understanding and agreed procedure for bidprocess

participation and clear roles and responsibility, but this integration not documented.

The results of Structure analysis is as follows:

Structure			
Status	Existing	Target	Gap
Maturity Level	3	5	4,5

7.5.2.3.3 Organization Culture

- The relationship between business units were improved by enhancing the communication in terms of solving the problems during the bidding process.
- There was no gap between the two main groups in the bidding process; Presales and service business unit, where service catalog has been developed and services are injected in the proposed solution during the bidding process.
- Everyone had same way in managing information related to the bid and used a same approach in performing bid tasks as the policies, procedures and process have been identified and standardized.
- The decision of bid action never take time, where it shared, presented and communicated to all bid team using the tools provided by the organization.

- The process also depended solely on individual efforts and participation
- The possibility of document loss was extremely low due to organizational culture of sharing the bid files online.
- Unauthorized employees will not able were able to take confidential documents without prior request and the tools is monitored to know who access what.
- Employees over all willing to perform other unit job in the PreSales Unit and this create big advantage of workload sharing and affecting the performance positivity during the bidding process.
- The top management always involving staff in the continues improvement process.
- The practice also encourages more user participation in IT system development in the future.
- Each of business units had their own way of managing bid and following specific standard which lead to consistent work process and affect positivity the quality of the work.
- Employee's attitude in each business units when working on same bid are willing to collaborate effectively, PreSales/bid Manager is not facing any issues on getting team working together and to work to word successful closing of the bid. As this element in affecting the overall performance of the bid process.

- Data and information sharing/ collaboration is one of the core culture exists

The results of Culture analysis is as follows:

Culture			
Status	Existing	Target	Gap
Maturity Level	4	5	5

7.5.3 Summary and Findings

- It is identified that the overall of bidding process based on the proposed framework was in excellent stages, where overall it well defined and documented across different areas and criteria. Definitely there are work can be done to improve the bidding process in order to maximize the agility and enhance the biding process to achieve the company strategic goal and objective by having competitive solution and state of art offers.
- It is clear from the assessment the interlink between the framework areas and criteria, which is building complete matrix to enhance the overall organization bidding process maturity.
- The framework gives clear guidance and roadmap to the top management for the next step to enhance the organization bidding

maturity level, and help the internal committees of reviewing the existing processes to have continuous improvement framework.

- After the assessment, it is clear that each of the business units such as Administration, Sales, presales etc. are following standard processes for managing Bidding. This due to the organizational culture to unify the employee's efforts and collaboration.
- Organization C has an excellent structure of Sales and PreSales business unit. Although, the missing of the Sales Back office, this never affect the bid process and have been solved by more integration between both business units to replace the functionality of the Sales Back office, by to enhance the communication and business alignment, the major advantage of the well organizational structuring is the integration with other business units.
- There are a lot of work have been done on the policy and procedures documentation, communication and implementation across all business units to unify the effort and procedures, which helps to standardize the bidding process and define the expected outcome form the it.
- It observed that the Board Members involved with senior Management layer during the bidding process. Also have more engagement with echo-partner management to support the Sales Unit during the bidding process.

- There was a policy and procedure for communication and different tools have been implemented. The communication was effective and there is no more steps can be done to enhance it and to be more agile.
- Definitely there are work is needed to be done by organization C to improve the maturity and reduce the gap as per the proposed framework for achieving their business objectives, particularly in the area of process, user involvement and organizational behavior.
- Overall processes for the proposed framework are (level 4) this is excellent indication about the readiness of the the organization C and management effort the build effective organizational culture and implementing tools and systems to enhance the communication and collaboration between team member to support the bidding process.
- The summary of the assessment of organization B according to the proposed framework model can be found in Table (2)

MATURITY LEVELS		Level (1) Initial	Level (2) Structured and Repeatable	Level (3) Defined	Level (4) Managed	Level (5) Optimizing
People	Staffing				☑	
	Training & Career development				☑	
	Competencies & Skills					☑

Process	Policy/Procedure				<input checked="" type="checkbox"/>	
	Communication				<input checked="" type="checkbox"/>	
	Tools				<input checked="" type="checkbox"/>	
Environment	Management				<input checked="" type="checkbox"/>	
	Structure			<input checked="" type="checkbox"/>		
	Culture				<input checked="" type="checkbox"/>	

7.6 Cross Case Studies Analysis

The researcher has analyzed the case studies of the chosen organizations of Gulf Region to compare the results and find the similarities or differences in between them. Depending on that, the framework has to be developed that would fit the bidding process of the organization. Eisenhardt (1989) recommended that case study analysis has been chosen as an appropriate research strategy to compare and analyze the case study consequences as per the research needs. The present study has been developed in the light of that to meet the research questions. The researcher has selected three case studies to complete this research work. The main aim of developing this is to find out the results based on the maturity framework of bidding process in the IT firms of Gulf region.

1. From the case studies, the researcher has been able to suggest that the right staffing process along with the implementation and adaption is essential to recruit the right employees. The evidence in terms of supporting the value added in context to the bidding process and quality work has been gathered to ensure maturity of the outcome. The cases have depicted the success level of the organizations in terms of annual revenues that they gathered from the market. The wrong staffing may deviate the expectations of the organizations related to the case studies.
2. From another case study, it has been suggested that the company that focuses on the training and career development of their employees holds the stronger position in the market. It also shows effective results in developing the maturity framework of the bidding process. The main asset of the organization is the human capital along with the knowledge. The knowledge gathered from training, experience and education provides a chance in the bid analysis process and developing the framework for bidding process.

3. The case studies have also helped in analyzing the skills and competencies of the staffs. This has helped to evaluate that the skills and competencies of the clients are necessary to develop a quality maturity framework on the bidding process. The employees need to have both soft and technical skills to meet the criteria in developing the framework. The following case study has helped in developing the link between the proposed framework while highlighting the importance of developing the skills of the staffs. This would ensure to understand the impact of the bidding process in IT firms.
4. The case studies have highlighted the significance of the policies and procedures related to the internal process of the bidding process to develop a maturity framework as per the requirements. It has been analysed from the cases that the organizations are developing policies, procedures, documentation and implementation to create an agile and systematic bidding process.
5. Communication can be considered as one of the essential factors to achieve greater results on the basis of bidding process in the selected organizations. There is a need of developing the collaboration and communication between the different business units to enhance the right collaboration and communication tools. The disconnections need to be removed while the management should be allowed to take actions and decisions on the right time. It has been observed from the case studies that with the development of proper communication in between the business units, the organizations can submit the bid timely along with a competitive solution.
6. It can be recommended that the organizations implementing, adopting and utilizing the tools to support the decision making process and enhance the internal processes gain the fruitful results. This also facilitates them to collaborate between the bidding team and develop a matured bidding process in the IT firms. The case studies utilized in the study emphasize

on measuring the usefulness of the tools in supporting and enhancing the bidding process.

7. It is necessary for every firms to implement the idea of organizational management and top managenet in order to make an impact on the development of the maturity framework of bidding process. This is because by executing the management strategy, the firms can enhance their ability of taking strategic decisions and supporting the organizational changes. Besides that, it also enforces the policies and procedures and facilitates the partnership with the vendors engaged in the bidding process.
8. Further it has been analysed from the case studies that the organizational structure also makes an impact on the development of the bidding process. Other than that, the relationship between the communication direction, business units, management reporting and the existence of the business units also makes an impact on the development of the bidding process. Henceforth, it can be mentioned that an effective organizational structure should have a clear communication technique, business units and management reporting in order to develop a successful framework. Thus, with the proper development of the organizational structure, the firms can implement the policies and procedures supporting the bidding process.
9. After analyzing the case studies, it has been found that organizational behavior and culture are the key drivers in developing the bidding process, but, it differs from one organization to another. But, culture can be an obstacle for the bidding process since the IT firms can find restrictions in terms of implementing a new process without following the corporate policies and procedures. Thus, it is necessary to consider the following factors while developing the bidding process.

Chapter 8: Conclusion and recommendations

Conclusion:

After coming at the end of the study, it can be inferred that the successful IT Firms (from successful winning bids) as observed are not an ordinary organization from level of internal readiness and implementation of supporting tool to facilitate the communication and working process from different perspective and especially when it will come to the bidding process. Successful IT Firms has started to develop the existing HR Unit by setting up policies and procedures related to HR hiring and focusing on employee's skills during the selections process. Where they are looking to hire caliber and talented new employees. HR has effective roll on building the bidding team and focusing on their skills.

IT firms at their beginning stage (which rated between level one and level two according the developed framework) focusing on having one or two calibers form technical side (PreSales) and not focusing on the administration and other business unit. As they believe that the (PreSales) can do it alone or drive it. Where in the reality the PreSales can start the process and will end overload as the PreSales will be doing multitasks which will affect the quality of that work.

Its observed that IT Firms hiring subject matter expert (SME) on specific technical field and alone with the SME they are hiring 3-4 junior and fresh graduated. The junior team will be supervised, mentored and training by the SME or the organization processes and procedures, where part of it the bidding process and how can the organization reaching the excellence. This is good strategy of accelerating the IT Firm learning curve within the bidding process and has positive impact from financial point of view. This will lead to organization transformation from skills and expertise during the bid process.

As per the interviews, in many cases in certain point of time, the organization has big volume of bids/tenders to be submitted at the same time by the organization for different customers. This big volume of bids/tenders guaranteed huge volume and critical process to run at same time during the bidding stage to manage the submission at same period of time.

In this situation, if the organization has no clear process and procedures to manage this situation, it will have big effect on quality of the bid, organization performance, and financial impact.

Successful IT Firm bidder observed are not only having expert staff in technology, but they are also focusing on the internal process, other business unit support bidding process, tools and technology to support the internal and external communication to support the bidding process and focusing on the organizational culture. They invest in systems, tools, applications that supporting the bidding process, like communication tools, CRM, Internal Portal, Document Archiving Solution ...etc.

Selection of right tools, application and technology is a new finding from the case studies. In the literatures did not went in details about the tool and the importance of having reliability and continuity, especially when the organization distributed across geographical areas and has centralized resources and IT. For that the selection of the tools and application shall consider this point of business continuity and high availability. The tools and application is supporting technology for bidding process to accelerate the agility and maturity achievement within the organization. The measurement not for the tool selection, the measurement will be for tool usage and effectiveness of the tool and how the tools is supporting the bidding process.

Implementing new strategy for bidding process requires a new organizational change, as it will require new investment, planning and implementing now tools and systems, which mean financial planning.

The case studies also presented the relationship between proposed framework areas and criteria. For adopting better bidding process and strategies a better integration required between People, Structure and Environment and their criteria, where better integration between proposed framework areas and criteria lead for better results and organizational excellence. After coming at the end of the study and gathering all the findings, it can be concluded that maturity framework for the IT firms can enhance their bidding process.

Areas to be considered during framework development and improvement:

Form the case studies and analysis, there are different aspects can be considered to enhance the framework and enrich it to enhance the maturity level and have accurate evaluation and implementation for the framework, also this will enhance the 360 view of the framework.

1. Add “Bid Ownership” Criteria under Process Area, as it has impact on:
 - a. Team Structure
 - b. Communication plan
 - c. Organizational Structure
2. Add “Financial” Criteria under the Process Area:
 - a. To evaluate the effectiveness of the implemented bidding process for financial point view.
 - b. Measure the successful rate of the winning bids
3. Add “Geographical Structure” Criteria under the “Environment and Culture” Area.
 - a. To evaluate the team work effectiveness.
 - b. To evaluate the centralization and decartelization of the tools
 - c. To evaluate different cultures.
4. Enhance the evaluation points across each area and criteria, to reform them and adding more points to be tested by going in to more details and document them
5. To build flow chart explaining the relation, direct and indirect effect and relationship between the areas and criteria.
6. Automate the evaluation and the framework by utilizing tools to enter feedback and rating for each process/area/criteria to have the evaluation with suggested recommendation automaticity on systematic and consistent methodology using the technology.
7. Add “Knowledge Management and Sharing” to be added under “Process”:
 - a. Measure the organizational lessons learned from the previous bids.
 - b. Measure the effectiveness and utilization of the internal tools and technology implemented.

By considering the above mentioned areas, the IT firms can develop a successful maturity framework of Bidding process.

Recommendations:

The researcher has deduced the following recommendations as per the study. The organizations should concentrate on employee training and development. Employees Training and Development, one of the key motivation within the organizations from two point of views, first to enhance the employee knowledge by teaching him new area and adding new expertise, and this reflected positively on the organization and his job. Second point, employee training is motivating and encourage the staff to provide the best solutions from technical point of view. Its observed during the interviews that staff looking for development to enrich their knowledge, feeling belong to the organization, see the career development. Knowledgeable staff has positive impact during the bidding process, where they are thinking out of the box and looking for comparative advantages from technical point of view.

Employee Skills, another key point as been observed within successful IT Firm in the bidding process. Focusing on communication, leadership, taking the ownership, team work, hardworking and bid management are key skills make difference when it will come to the bidding process and how effective the staff is dealing with tender/bid.

Organization structure is also important. More successful IT Firms are the one well organized and have clear structure and functional unit and the relationship between them well defined. It is important form begging to identify the organization aim and objective and build the organizational structure that can be considered as one of key success factor of that organization and support the bidding process.

As it has been observed Organization leadership is one of the effective factors within the IT firm during the bidding process in all levels, bidding process requires a fundamental and significant change from a traditional way of bidding process (bidding to fulfil the bidding process only without focusing on the result) to systematic building process towards an excellence in the bidding process and to have great impact on the financial and successful rate of the organization in the market.

As observed in the case studies, strong vision and objectives for the organization with corporate support and motivation on all levels to lead the change within the organization is really important. Strong leadership characteristic is important to deal with cultural issues, internal resistance to collaborate, communicate and exchange information between

employees and business units to word successful bidding. Also to deal with internal resistance of implementing the new policies and procedures. This has great indication that the top management leadership and decisions are extremely important to implement and ensure the successful bidding process. The leadership will ensure that the business units are moving and implementing the organization vision and goals.

Continuous improvement is another important factor where case studies highlight the continuous improvement with great leadership and staff motivation during the bidding process to achieve better maturity level and more agility. Continuous improvement is an ongoing effort to improve the bidding services and processes from all levels and business units, by seeking incremental improvements in all areas and criteria.

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