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The Western Samoa Context – Theory V- Information Technology Project
Management And Tools – An Empirical Study



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The Western Samoa Context – Theory V. Information Technology Project Management And
Tools – An Empirical Study

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Dedication

To my family

Mhjmt Tuiatua Laupepa Malietoa

My sons Nestor Edward Opetaiia and Lance Nigel Grey

My grandson Vincent Chayse Sur Vagimogimo Grey

Acknowledgement

To Dr Susan Chard thank you.

To Professor Marcus Westner, your short visit to the Whitireia Community Polytechnic in Porirua Wellington New Zealand motivated me to strive for the best. The short discussion I had with you about e-business project critical success and failure factors was indeed very helpful.

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Many thanks to MHJMT Tuiatua Laupepa Malietoa my soul mate and friend, you inspired me a lot. Thanks for your massive support.

To my sons Nestor Edward and Lance Nigel, love you guys, thanks for your continued support.

To my grandson Vincent Chayse SUR Vagimogimo Grey, you arrived at the right time and you became the major source of inspiration for me.

Abstract

E-government (e-govt.) projects have become the primary means for governments of small underdeveloped and developing nations in the South Pacific to implement socioeconomic reforms aimed to eliminate poverty and improve free market trade. This empirical research qualitatively explores and investigates similarities and/or differences between the traditional Samoan e-govt. approach, the modern Information Technology (IT) Projects and IT Project Management Tools and applications in order to gain more insight on e-govt. projects implementations. This study makes no distinguish between e-business, e-govt, e-internet etc. as these projects are all included under the 'IT' projects category. A qualitative empirical content analysis mixed method was conducted using data gathered from specific online databases to answer four major empirical research questions. The chosen datasources included:

- 1) The Project Management Institution (PMI) Project Management Body of Knowledge (PMBOK) 5 2013 ten Project Management Knowledge Areas (PMKAs) group processes and disciplines;
- 2) 367 Asian Development Bank- Western Samoan (ADB-WS) loan documents from 1998 to 2015;
- 3) 21 Videos - Samoan projects 2009 to 2012; and
- 4) 441 critical success factors (CSFs) and failure factors (FFs) textual data collected from 42 selected studies in the field of IT Projects.

The PMBOK ten PMKAs and processes were used to develop three sets of protocols to analyze and test each of the three research components in order to answer research questions. It was found that the Western Samoa e-govt. approach is out of date and should be reviewed and updated in order to include its citizens and IT and Information Systems (ISs) and applications. Also, the traditional Samoan organic project/activity processes (initiate, plan, execute, monitor and control, and end) as well as project attributes are similar to those of any other global cultural setting and the PMI PMBOK guideline. A management theory V was introduced in the study which represents the WS village traditional communities and seeks for further future work of the academic scientific community focusing on e-govt. project implementations for WS and other Pacific Islands.

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Table of Abbreviations

ABBREVIATION	DESCRIPTION
ADB	Asian Development Bank
AP	Analysis Phase
ANZ	Australia and New Zealand Bank
AOL	American Online
AT & T	American Telephone and Telegraph
BBE Ltd Samoa	Betham Brothers Enterprise Limited Samoa
BOD	Board of Directors
CPS	Country Partnership Strategy
CSFs	Critical Success Factors
DONI	Diffusion of New Innovation
DOIT	Diffusion of Information Technology
DP	Design Phase
FFs	Failure Factors
F1.IC	Form 1.Information Collection
F2.IC	Form 2.Information Collection
F3.IC	Form 3.Information Collection
GDP	Gross Domestic Product
IBM	International Business Machines
ICT	Information and Communication Technology
IMF	International Monetary Fund
ITOC	Information Technology Organisational Change
ITU	International Telecommunication Union
IK	Indigenous Knowledge
ISs	Information Systems
IT	Information Technology
IWS	Internet World Statistics
KM	Knowledge Management
LAN	Local Area Network
NBS	National Bank of Samoa
OGAM	Organisation Governance and Management
O'O Method	Object Oriented Method
O-PLC	Organic Project Life Cycle
PCLC	Project Conceptual Life Cycle
PCMKA	Project Communication Management Knowledge Area
PCMKA	Project Cost Management Knowledge Area
PDS	Project Data Sheet
PHRMKA	Project Human Resource Management Knowledge Area
PIMKA	Project Integration Management Knowledge Area
PP	Planning Phase
PLC	Project Life Cycle
PMBOK	Project Management Body of Knowledge
PM	Project Management

PMI	Project Management Institution
PMO	Project Management Office
PMSKA	Project Management Stakeholder Knowledge Area
PPMKA	Project Procurement Management Knowledge Area
PPTA	Project/Program Preparatory Technical Assistance
PQMKA	Project Quality Management Knowledge Area
PRMKA	Project Risk Management Knowledge Area
PSMKA	Project Scope Management Knowledge Area
PTMKA	Project Time Management Knowledge Area
RAD	Rapid Application Development
RCA	Research Component A
RCB	Research Component B
RCC	Research Component C
RFID	Radio Frequency Identification
SBEC	Samoa Business Enterprise Centre
SCB	Samoa Commercial Bank Ltd
SDLC	Systems Development Life Cycle
SDM	Systems Development Methodology
SDLCPLCM	Systems Development Life Cycle/Project Life Cycle Model
SDS	Strategy for the Development of Samoa
SMEs	Small and Medium-sized Enterprises
SOG	Speed of Globalization
SPBD	South Pacific Business Development
SPDF	South Pacific Development Foundation
SSASP	Systems Support and Security Phase
TSDM	Technical Systems Development Methodology
TA	Technical Assistance
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Program
WBDI	Women in Business Development Incorporation
WS	Western Samoa
WSIT	Western Samoan Information Technology
WSEPC	Western Samoa Electric Power Corporation
WSDB	Western Samoa Development Bank
WB	World Bank
WBS	Work Breakdown Structure
WWW	World Wide Web
ZDNET	Ziff Davis Network

1 Chapter One - Introduction

1.1 Theme of the Thesis

Information Technology (IT) has become the core mechanism for implementing business, managerial and administrative reforms. Jaeger and Thomson (2003); Moon (2002) and Tat-Kei Ho (2002) state that worldwide e-Governments (e-Govts.) have become prominent leaders for delivering services to customers. Since the last decade, governments of small islands of the South Pacific have been engaged in implementing e-govt. projects for socioeconomic reforms. The Western Samoan (WS) e-govt. has been in operation since the last decade, but it failed to contribute to improve public service delivery (Misra, February 2007). The patterns of reform in WS displayed similar symptoms to those of the world e-govt. changes and development since the 1980s, in which two Government Administrative reforms took place, until the mid-1990s when 'e-govt.' became the focus for government strategic endeavours for socioeconomic reforms, based on citizen-centric interactive and responsive administration (Misra, February 2007). From the late 1990s, the then government of WS in partnership with the ADB began implementing WS's e-govt. projects. The term 'Pacific Island' in this thesis referred to the Pacific Islands of the South Pacific including: WS, Tonga, Fiji, Niue, Tokelau, Papua New Guinea (PNG), Tahiti, New Zealand (NZ) and Australia also known as the Pacific Forum. From year 1998, WS has continued to implement e-govt. projects in partnership with financial institutions such as the World Bank (WB), the Asian Development Bank (ADB), and the International Monetary Fund (IMF) as well as the WS Development Bank (WSDB).

1.2 Purpose

The purpose of this study is to find out why IT and citizens of WS have been omitted from all WS e-govt. projects with the ADB. Furthermore, I need to find out if the Project Management Body of Knowledge (PMBOK) guideline (PMI., 2000) can help improve the WS *tufugas* (managers) projects and e-govt. approach in future.

This empirical study explores and investigates the WS e-govt. project context to find out how the traditional projects are similar or different from the modern (IT) projects. More specifically, it explores the WS IT project experiences in order to gain more insight on the concept of e-govt. There are four major empirical research questions *see Chapter 1 section 1.9 below*. The WS e-govt. is complex and it involves a large number of people and/or textual data

samples. The chosen data sources for the content analysis comprises: the Project Management Knowledge Areas (PMKAs) processes and disciplines (PMI., 2013); the ADB-WS loan documents (ADB., 2014); Videos of WS e-govt. projects downloaded from the Youtube site; and IT projects critical success factors (CSFs) and failure factors (FFs) textual data collected from selected authors. The ADB WS loan documents are longitudinal data which enabled tracking IT and e-govt. development and progress in time, and trends measured by the speed of growth of IT which seriously continued to impact on the WS environment. The qualitative content analysis mixed research methodology (Elo et al., 2014; Elo & Kyngäs, 2008) as illustrated in the Research Conceptual Framework in *figure 1 below*, provides a flexible analytical tool for analysing the WS e-govt. projects.

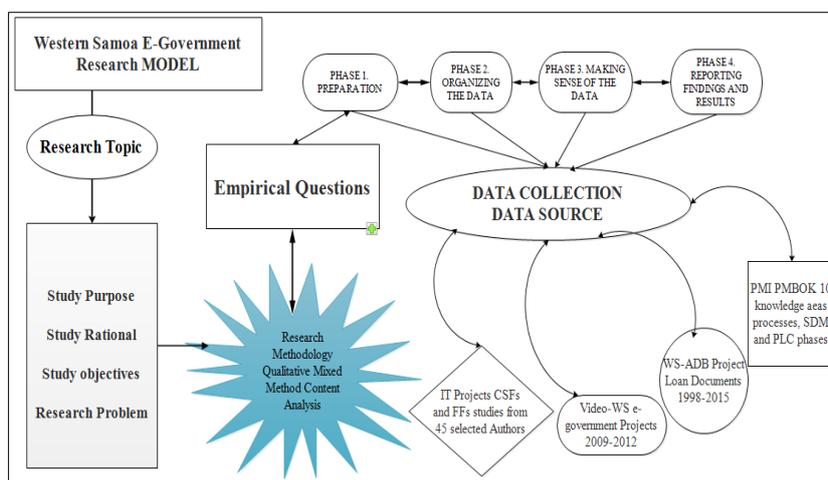


Figure 1. Research Conceptual Framework

It is an empirical study since there is insufficient literature available for the WS e-govt. projects. Thus, the study depended a lot on anecdotal evidence and traditional methods, skills and resources of the Samoan people, pertinent to the WS context. The study also investigates factors critical to ‘systems alignment’, how IT professionals attributed them in relation to IT projects, and how these information were used to improve outcomes of IT projects implementations (Standing, Guilfoyle, Lin, & Love, 2006). While the field of IT projects CSFs and FFs is beyond the scope of this study, because IT project implementations are usually stimulated and measured by stages of change (Carter & Belanger, 2005) and often lead to relationship between strategic solutions requiring implementation of IT projects, this thesis also investigates IT organisational change (ITOC) and CSFs and FFs influencing IT projects implementation (Gardner & Ash, 2003). The study makes no distinguish between e-service, e-

business, e-govt. e-internet and/or e-economic projects, since all e-projects shared at least two common features, firstly, they all use IT, and secondly, all business operations are connected using the internet and the world wide web (www) (Palvia & Sharma, 2007).

1.3 Background

Countries and organisations worldwide at an increasing pace are forced to transform their traditional business practices into modern IT businesses in order to survive in an ever-changing business world (Schiltz, 2003, p. viii). For example, the adoption of web-based technologies to conduct and deliver e-govt. services to citizens, have become a global trend in public administration, so that by year 2000, about 168 world governments have operated their own websites (Lee & Perry 2002, Heintze & Bretschneider 2000, Rosenbloom, 1992, as cited by Wong & Welch, 2004, p. 276). Thus, IT projects are key vehicles used by governments and organizations to implement e-business and e-govt. solutions (Schiltz, 2003, p. viii). Some major environmental factors affecting the livelihood of the WS national communities include:

- a) The speed of globalization (SOG), the diffusion of new innovation (DONI) (Aghion & Howitt, 1990) , and the diffusion of IT (DOIT) (Winkler, Glänzel, Levin, & Stephan, 2011).
- b) The WS diseconomies of scale in the production and exchange of goods and services (Bhaskara, Sharma, Singh, & Lata, 2007).
- c) The Samoan island vulnerability to natural disasters and remoteness from major import and export markets (Bhaskara et al., 2007; Giuliano & Ruiz-Arranz, 2009),
- d) The WS government information and communication technology (ICT) and high speed broadband internet strategies (Grey, 2013a, 2013b, 2013c).

These provide compelling reasons to conduct this research in order to understand IT projects and IT project management disciplines and applications (PMI., 2012, 2013). In addition, these changes increased number of everyday living projects which usually required immediate attention (ADB., 2014; Wheeldon, September 2010). Furthermore, the devolution and evolution of IT, the SOG, the DONI as well as business trends have increased public accessibility to information (Jaeger & Thompson, 2003) and availability of sophisticated IT PM new products, tools and equipment (South274., 2009) which outdated traditional tools even more (UNESCO., 1992). These also resulted in increase in locals' demands for better

tools and novel ideas for speedy rebuilding of the nation's local communities ecosystems, cultural systems and infrastructures (Wheeldon, September 2010). Furthermore, the evolution of sophisticated technologies also revolutionized organisational structures, improved societal knowledge, upgraded people's expectations and further increased demands for quality products, services and even for better employment opportunities (Tat-Kei Ho, 2002).

1.4 E-Government Definition

There are many definitions of e-govt. Forexample, Tat-Kei Ho's (2002, p. 434) research discovered that the number of American internet users in the year 2000 peaked at over 110 million people. Between 1990 and 1998, the number of computers attached to the Internet grew exponentially from less than 1 million to about 30 million (Commer, 1998 as cited by Tat-Kei Ho, 2002, p.434). In 1989-1997, the use of network services from either home or work increased from 6 percent individuals to 23 percent (Neu, Anderson, & Bikson, 1999 as cited by Tat-Kei Ho, 2002, p. 434). Further more, the explosive growth of internet users was driven by the rapid transformation of the private sector to e-commerce, thus putting more pressure on the public sector to serve citizens electronically, hence the "e-govt." concept (Tat-Kei Ho, 2002, p. 434). The concept of e-govt. involved building ISs software and hardware network infrastructures to connect public and private employees to the citizens for the provision of public goods and services. Furthermore, the concept of e-govt. emphasized empowering citizens and communities to interact through the world wide web (www) and the internet for the distribution of public and/or private goods and services (Jaeger & Thompson, 2003; Tat-Kei Ho, 2002). According to Palvia and Sharma (2007, p. 3), e-govt. as defined by the United Nations Educational Scientific Organisation (UNESCO) involved utilizing the internet and the www. for delivering government information and services to citizens. Moreover, while definitions of e-govt. vary, some common themes shared by all definitions are. firstly, all use IT and the Internet, secondly, all e-govt. initiatives are aimed to improve the delivery of public goods and service to citizens, businesses and other government agencies and, thirdly, the e-govt. approach encouraged citizens to interact with government officials, the state or local governments concerning the distribution of, and solving enquiries relative to, public goods and service for daily consumption (Palvia & Sharma, 2007).

1.5 Research Rationale

The study rationale is to find out how the PMBOK guideline (PMI., 2012, 2013) can be integrated and coordinated with the Samoan project activities and e-govt. approach to help improve future IT project implementations.

1.6 Theory V = Samoa Village People

The concept of the management “theory V = Samoan Village People” represents the traditional Samoan people’s need for assistance from the research community to help the Samoan locals implement e-govt. transformation. The proposed management theory V is based on three equally important aspects:

- 1) There is a need for more research efforts to focus on WS e-govt. transformation.
- 2) There is a need for more research work to focus on the concept of e-govt. socioeconomic reforms at country, international and global levels (ADB., 2014) .
- 3) The waves of ‘Theory V’ encompasses and emphasizes the significance of the human phase of IT PM and e-business. Theory V emphasized consideration of IT PM health and safety regulations as well as fair employment relations applications to help prevent exploitation of those traditional village individuals and families who participate in the e-govt. transformation reforms.

The goal of theory V is to improve the WS’s e-govt. transformation. In particular, it is aimed to help the Samoan tufugas (project manager) understand the current IT PM disciplines and applications to help them make informed decisions for future project development and improve implementations. Theory V holds that if the IT PM and applications are introduced appropriately to the Samoan project tufugas, they can learn to adopt and use them appropriately to help improve everyday living projects. Theory V is discussed in detail in *Chapter 3 subsection 3.6*.

1.7 Research Problem

The WS e-govt. experiences with the ADB started back in 1998 (ADB., 2014) in which forty-five major e-govt. projects were initiated and implemented to address social and economic reforms. These projects involved building manufacturing and industrial communal public ecosystems and infrastructures, creating e-SMEs and e-service industry, national

entrepreneurship and micro-finance businesses throughout the entire nation. The research problem with the WS e-govt. transformation firstly, involved the exclusion of two important components of e-govt. namely the 'citizens' and 'IT' from all e-govt. major projects and sub-projects (ADB., 2014). Secondly, the traditional village project communities grievances concerning the effects of the e-govt. transformation, have never been addressed appropriately.

1.8 Research Objectives

The four research objectives are:

- 1) To determine differences or similarities between WS traditional projects, modern IT projects and IT project management and tools.
- 2) To identify issues and challenges faced by the WS e-govt. projects.
- 3) To determine CSFs and FFs hindering successful implementation of WS e-govt. projects.
- 4) To explore ways IT PMKAs processes and disciplines can help improve the WS traditional project manager and e-govt. approach in future.

1.9 Major Empirical Research Questions

The four major empirical research questions are:

- 1) Are there similarities or differences between the WS traditional projects and e-govt. projects, the modern IT Projects and the IT Project Management and Tools?
- 2) What are issues or challenges faced by the WS e-govt. project implementations?
- 3) What are potential CSFs and or FFs influencing the ADB-WS e-govt. projects?
- 4) How may the PMKAs, processes, tools and techniques help improve the Samoan project managers and e-govt. approach in future?

1.10 Research Context

E-govt. is complex particularly since it is a country and international level type of IT Project. It involved developing, designing and building many different types of IT businesses. This section articulates coherently important areas and applications relevant to any IT project in conjunction with the PMBOK guideline and applications (PMI., 2012, 2013). The PMBOK

guideline is the worldwide acceptable PM best practice that any project manager and project team from any cultural setting may use and apply in accordance to each project situation (PMI., 2012). The research context is reflected in the ten important generic questions as depicted in *table 1 below*.

Table 1. Research Context

No	Research Context Questions
1	What is IT Organisational Change (ITOC)?
2	What is IT Project?
3	What is the role of the PMO?
4	Why is hiring a PMO to manage e-govt. projects important?
5	Why is leveraging the existing system with the new strategic solution important?
6	Why is ISs design, architecture, reengineering infrastructure and deployment critical to the success of an IT project?
7	Why is procurement management critical to the success of an IT Project?
8	What is system alignment? Why is system alignment important?
9	Why must the project manager install a stakeholder project communication management system?
10	How may the project manager determine CSFs and /or FFs influencing an IT Project?

The concept of e-govt. involved planning, designing and building many types and size of e-businesses. *Figure 2 below* mindmapped systematic processes that normally occurred once ITOC has been identified (Shelly & Rosenblatt, 2010). For example, a floor manager would prepared a system's request and submit it to the IT Administrative unit informing them of a persistent problem affecting the organisation's overall monthly sales continuously, and suggested a potential solution. A preliminary investigation may be conducted by an analyst who is expected to report back the findings with a suggested solution for the problem (Shelly & Rosenblatt, 2010). This process is referred to in this study as the ITOC. This is considered as significant because the end results of the preliminary investigation often lead to the identification of the type of 'IT project' that is going to be undertaken in order to address the organisational void (Wickramasinghe & Goldberg, 2005). This study argued that the identification of the CSFs/FFs influencing an IT project implementations usually started from the early stages of the problem identification. In addition an appropriate IT solution is approved followed by the recruiting of a project manager and project team or setting up of a PMO if necessary (Schwalbe, 2010). The systematic flow of the questions is based on the phases of the new technical systems development methodology (TSDM) stages e.g., the iterative system development life cycle (SDLC) model adopted by this study together with the organic project life cycle (OPLC) phases as well as the applications of the PMKAs and processes.

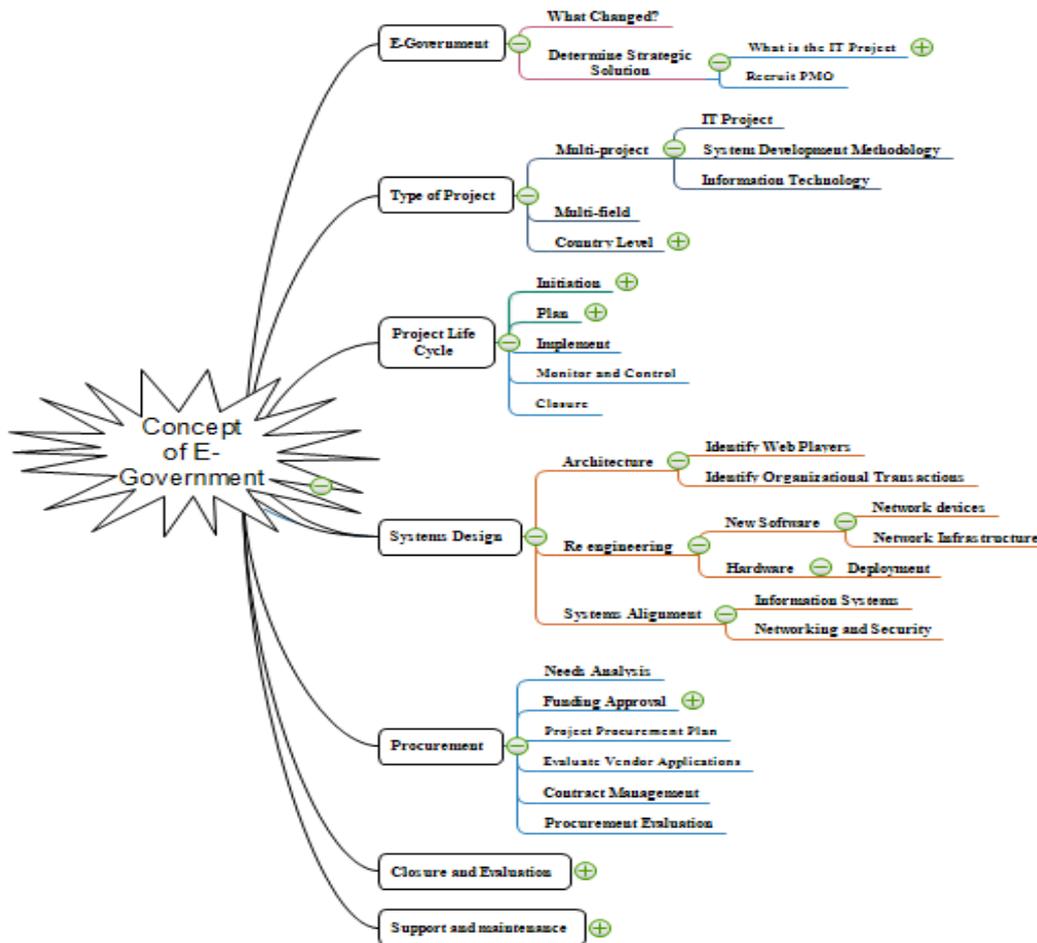


Figure 2.E-Govt. Conceptual Mindmap

1.11 Research Methodology

This study adopts the qualitative content analysis mixed method (Elo et al., 2014; Elo & Kyngäs, 2008; Hsieh & Shannon, 2005; Mastro & Stern, 2003). To answer research questions, the chosen four specific categories of data sources for the research methodology included: (1) PMI PMBOK guideline ten knowledge areas and disciplines; (2) the ADB-WS project loan documents, (3) Videos - WS e-govt. projects, and (4) IT projects CSFs and FFs. The PMKAs processes and disciplines (PMI., 2012, 2013) are employed to develop three different protocols to content analyze and test the three research components (RCs) listed below:

- 1) Protocol I. RCA. the ADB and WS loan documents 1998-2015.
- 2) Protocol II. RCB. Video WS e-Govt. Projects 2009-2012.
- 3) Protocol III. RCC. CSFs and FFs documents gathered from various authors.

1.12 Research Ethics

Although this research collected online secondary data, they still involved people who participated in different specific projects that were implemented internal and external of WS. Hence, a research ethics application was submitted as a separate document to the Whitireia Community Polytechnic Faculty of Business and IT Research Ethics Committee *see Appendix 10.1 Figure 1.Ethics Approval.*

1.13 Structure

1.13.1 Chapter 2. Literature Review

The lack of literature focusing on the WS e-govt. projects with the ADB allowed for the opportunity to study sparse reports and unobserved documents from various data sources. The study's topic consists of themes and theories closely interwoven and interacting with each other formulating the base in which this thesis is built upon. Chapter 2 focused on reviewing past contributions of the scientific research community from relevant fields to enable setting up a suitable direction for this empirical study. The author's contribution is also presented in this chapter. Sections included are: introduction, WS e-govt. themes and theories, CSF and FFs influencing IT projects followed by the summary.

1.13.2 Chapter 3. WS e-Government Context.

Chapter three is dedicated to the WS e-govt. context. It explores the WS IT experiences with the ADB. The chapter emphasized the term 'Project' which is the major vehicle used to implement IT businesses. WS e-govt. is complex and its continuity nature, made the government a project-based organization. Sections in this chapter included introduction, background, WS e-govt. transformation, WS SBEC, indigenous knowledge, theory V, the unique Samoa, the traditional Samoan way followed by the summary.

1.13.3 Chapter 4. IT Project Management Context

Chapter four discusses the PMBOK 10 PMKAs processes and disciplines. The PMBOK and processes are important elements of 'units of analysis' for the research methodology. A variety of PM tools and techniques are also modelled and discussed with applications. The PM

SDLC/PLC model is introduced here. Sections included are: introduction, PMO, IT projects, IT PM disciplines, PMI PMBOK 10 PMKAs and processes, followed by the summary.

1.13.4 Chapter 5. Research Methodology

The qualitative content analysis mixed research methodology is the most appropriate research method for this study. The purpose of the research methodology is to answer the four major empirical research questions. The data collection, sampling, categorization, coding and unitization schemes as well as the developing of the content analysis protocols are described in detail here. Sections in this chapter included: introduction, the qualitative content analysis mixed method, research design, preparation phase, organizing phase, and making sense of the data phase, research protocols followed by the summary.

1.13.5 Chapter 6. Findings and Results

This chapter reports the research findings and results of the content analysis. Sections included are: FI.IC. Protocol.I. RCA. Sample 1. E-Govt. WS-ADB Project loan documents, F2.IC.Protocol.II. RCB. Sample 2.WS-business Video Analysis, Protocol III. RCC. 6X6 Matrix. IT projects CSFs and FFs followed by the summary.

1.13.6 Chapter 7. Discussion

Chapter seven discusses the research findings and results. Sections included in this chapter are: introduction followed by the summary.

1.13.7 Chapter 8. Conclusion, Recommendations and Future Work.

Chapter eight reviews each chapter of the thesis to ensure that each chapter has done what it was supposed to do in order to achieve research goals, objectives and answer research questions. Sections included in this chapter are: introduction; conclusion, recommendations and future work.

1.14 Chapter 1. Summary

Chapter one is introductory outlining the conceptual framework of this empirical research as demonstrated in *chapter 1 figure 1 above*. This study explores and investigates the WS e-govt. approach in partnership with the ADB financial institution from the 1990s to the current time. The WS e-govt. has been in operation since 1980 until the mid-1990s when changes occurred in which the government of WS adopted the e-govt. concept to accelerate social and economic

reforms. The purpose of the study is to find out why the citizens and IT and ISs were excluded from all forty-five WS e-govt. projects from the 1990s to the current time. Also to find out if the PMI PMBOK guideline can be integrated and coordinated with the WS traditional projects and e-govt. project approach. It is an empirical study since there is insufficient literature available for the WS e-govt. approach. The term 'Pacific Islands' in this thesis referred to Pacific Islands of the South Pacific including: WS, Tonga, Fiji, Niue, Tokelau, PNG, Tahiti, NZ and Australia. The study rationale is to find out how the IT PM disciplines can help improve the WS project tufugas and e-govt. initiatives in future. The management theory V = Samoan Village People, is introduced for the WS e-govt. context. There are four research objectives, first, to determine differences or similarities between the WS traditional projects and modern IT projects and IT PM processes and disciplines; secondly, to determine issues faced by the WS e-govt. projects; thirdly, to determine CSFs and/or FFs influencing implementation of WS IT projects; and finally, to explore ways IT PMKAs processes and disciplines may help the WS traditional project managers and e-govt. implementations in future. The four major research questions included: Are there similarities or differences between the WS traditional and e-govt. projects, modern IT projects, and IT PM tools? What are the issues faced by the WS e-govt. project implementations? What are the CSFs and/or FFs influencing the WS e-govt. projects? Finally, how may the PMKAs processes tools and techniques help the Samoan traditional project tufugas and e-govt. implementations in future? The research context is described in conjunction with the PMI PMBOK guideline. The PMBOK guideline is a global acceptable PM best practices in which any PM and project team from any cultural setting may choose how and/or how much they can apply to each project situation. This study adopts the qualitative content analysis mixed method. The research datasources are: the PMI PMBOK ten PMKAs processes and disciplines; the ADB WS e-govt. project documents; Video-WS e-govt. projects; and the IT projects CSFs and/or FFs studies selected from various authors. The study's ethics approval was submitted to and approved by the Whitireia Faculty of Business and IT Ethical Committee. Last but not least, the structure outlined important aspects of each chapter of the study.

2 Chapter Two-Literature Review

2.1 Introduction

WS has been undertaking socioeconomic reforms since the last decades aimed to improve economic performance, free trade and eliminate poverty. The major problems contributed to the failure of the fifty-four WS e-govt. projects from 1998-2015 involved the exclusion of the country's citizens and IT. The WS e-govt. projects from 1998 to 2015 have presented an opportunity to study unobserved data from the ADB, WS and the Youtube websites to analyse and observe the WS e-govt. project activities and to answer research questions (*see chapter 1 subsection 1.9*). The two core contexts involved in this study are the WS e-govt. and the PMBOK PMKAs and processes (PMI., 2013). The former brought about the empirical nature of this research due to insufficient literature focusing on the WS e-govt. context. The research topic produced a number of standalone themes and theories that are closely correlated and interacted with one another creating the base in which this study is built upon. The existing literature is reviewed to find out what has already been done and what has not been done to help set the direction for this research.

2.2 WS E-Govt. Concept

This empirical study explores and investigates the IT PM tools and applications and the concept of e-govt. It is an empirical study since there is insufficient literature which focused on the WS e-govt. projects. Hence, the study depended on anecdotal evidences of traditional methods, skills and resources of the Samoan people as well as sparse reports obtained from the ADB website and videos of e-govt. projects. The author's contribution to the academic knowledge of the scientific research community are listed *below*:

- a) Research Conceptual Framework, *Figure 1 Chapter 1.*
- b) Theory V = Samoa Village People, *Chapter 1&2.*
- c) E-Govt Conceptual Mindmap, *Chapter 1.*
- d) Definition of term Project, *Chapter 2.*
- e) WS Village Governance Structure, *Chapter 3.*
- f) WS Context Information, *Chapter 3.*
- g) Proposed PM SDM SDLC-PLC Model, *Chapter 4.*

- h) The Study Content Analysis Model, *Chapter 5*.
- i) Research Methodology, *Chapter 5*
- j) RCA. Protocol.1. Form 1. Information Collection *Chapter, 5*.
- k) RCB. Protocol II. Form 2. Information Collection *Chapter, 5*.
- l) RCC. 6X6 Matrix. IT projects CSFs/FFs, *Chapter 5*.

2.3 Themes and Theories

The research topic provides complexity to the study since it is composed of several phenomenal themes and theories which interact with each other to build the platform the study works on. Hence the need to understand themes and theories driving this study. Tesch (1944) explains that ‘themes’ can mean somethings akin to the content, a topic, a statement, or a fact, in a piece of data which expressed more simply, what the data segment is about. In addition, a theme can also mean a major dimension or a major aspect or constituent of the phenomenon being investigated.

On the other hand, ‘theory’ encompasses sets of useful interrelated concepts, definitions, and propositions that can explain or predict events or situations or identify correlations amongst variables (Glanz, 2009). The four basic criteria of theory are: conceptual definitions, domain limitations, relationship-building and predictions or factual claims (Eisenhardt, 1989; Gregor, 2006; Keutel, Michalik, & Ritcher, 2013; Wacker, 1998, p. 363). Wacker (1998) explains that the interpretation of theory is usually followed by the formal definition which enabled connecting the theory directly to its four components (Hunt, 1991; Bunge, 1967; Reynolds, 1971 as cited by Wacker, 1998, p. 363). In addition, some researchers utilized different theories concurrently to envisage definitions by using different “lenses” when they qualitatively analysed complicated problems and social issues while focusing on other different aspects of the data, as they organized a much suitable base within which to conduct the analysis (Reeves, Albert, Kuper, & Hodges, 2008).

2.3.1 Concept of e-Govt.

Misra (February 2007, pp. 1-4) in defining the concept of e-govt. identified four equally important domains including; governance, information and communication technology (ICT), e-business and e-citizen. Out of the many definitions of e-govt. Misra (February 2007) provides

a better proposition by arguing that e-govt. definition and success may be determined by its benefits which are mapped in three equations as illustrated in *table 2 below*.

Table 2. Benefits of E-government

No.	Benefits To Citizen	No	Benefits To Business	No	Benefits To Government
1	24x7(24 hours, 7 days a week) round-the-clock service (Always available),	1	Reduced time in setting up new business (reduced red tape),	1	Better policy making and regulations and development functions as result of better and up-to date information,
2	Economical (no need for physical visit to an office),	2	Conducting e-business and e-commerce (online business),	2	Very fast acquisition, storage and retrieval of data leading to better decision-making,
3	Fast and efficient service (electronic),	3	Better conformity to government rules and regulations for running business,	3	Better management of government processes,
4	Transparent (no speed money),	4	More convenient and transparent way of doing business with government through e-procurement,	4	Better dissemination of government rules, regulations and activities,
5	Equitable (any one can access it), and	5	Better control over movement of goods through online monitoring of clearances, and	5	Better performance in regulatory functions like taxation,
6	Convenience (can be accessed while on move or at home).	6	Conducting monetary transactions online (e-banking, e-payment).	6	Better performance in social sectors like education, health and social security, and last but not the least,
				7	Creates positive image of modern and progressive government"

Source: Misra (2007)

Tat-Kei Ho (2002, p. 435) states that society usually contemplate governments as ‘hierarchical bureaucracies’ (Weber, 1947) which is a concept that is rooted in the Weberian organisation model. Moreover, the model not only concentrated on the managerial aspect of an organisation, but it also highlighted the significance of departmentalization, specialization, standardization and routinization of the production process (Weber, 1947). Tat-Kei Ho (2002, p. 435) affirms that the model is a reinvented government movement from the 1980s aimed to change the focus of government operations by expanding its internal vision externally in order to prioritize concerns and needs of end users. Under the model proposed by (Osborne and Gaebler, 1992, as cited by Tat-Kei Ho, 2002, p. 435) citizens are central to the planning and designing of government service delivery strategies which is a notion, that is related to the principles of a ‘catalytic government’ and ‘community-ownership’ (Tat-Kei Ho, 2002, p. 435). Thus, the model primarily encouraged citizens to take ownership of their problems and urged government officials to partner up with citizen groups and non-profit organizations to help identify solutions to problems and to deliver public services effectively (Tat-Kei Ho, 2002, p. 435). Carter and Belanger (2005) argued that e-govt. projects’ complexities are attributed to their large sizes, multi-project and multi-field characteristics. In addition, government initiatives need not only to ensure that national citizens access information but also that

appropriate IT network infrastructures are installed and users are provided with appropriate training and support to enable connectivity and usability.

Palvia and Sharma (2007) define 'e-govt' as a generic term for web-based service delivery of public goods by governments and government agencies for public consumption. It involved utilizing of the www and the internet to facilitate government operations and interactions with citizens (Palvia & Sharma, 2007; Tat-Kei Ho, 2002). Some examples of interactions included; obtaining information, filing or making payments, as well as a host of other activities conducted via the web (Sharma & Gupta, 2003; Sharma, 2006 as cited by Palvia & Sharma, 2007, p. 1). According to (Palvia & Sharma, 2007, p. 1) the WB defines e-govt. as the use by government agencies of IT such as the www networks, the internet and mobile computing that are capable in delivering services to improve interactions with citizens. Tat-Kei Ho (2002) argues that the key purpose of e-govt. is to improve citizens' access to government information, services and expertise, and to ensure citizens participation with government processes. Thus, e-govt. can be seen as a permanent commitment by government, aimed to improve relationships between citizens and the public sector while enhancing cost-effective and efficient delivery of goods, services, information and knowledge (Tat-Kei Ho, 2002, p. 435). Carter and Belanger (2005), Jaeger and Thompson (2003), Moon (2002), and Tat-Kei Ho's (2002) studies all focused on large organisations and world government business transformation to IT aimed not only to improve service delivery for public consumption but also to enjoy the benefits offered by IT and applications.

2.3.2 Information Science

Wersig and Neveling (1975) argue that information can be defined as relations which have become noticeable caused by constant changes in the state of a physical object. For example, information works parallel with communication which can be results of some unknown process such as a simple information selected for transmission, or that of an organization, or may be one of analysis. Moreover, information can be interpreted as the elimination of some form of consternation, simply because the data representing a solution may have surfaced empowering unionization. Wersig and Neveling (1975) explain that particularly in areas of practical work, as the need for the development of information science continued to increase, so are the demands for better means for conducting administrative and managerial documentation and

information retrieval. For example, the revolution and evolution of new technologies such as electronic data processing, required strengthening disciplinary measurements for information science. Other areas which contributed to the birth of information science included, technology, science, business, research and development (Coulter, 2003). Moreover, information can condition the manner in which organisational members perform and complete their work on time effectively and efficiently. For example, a salary clerk may need to make paycheck deductions, a sales representative may need to calculate product prices for customer quotes, a production manager may need to know the current month's quality levels compared to previous months. So how will entrepreneurs or an e-business organisation get information? This is made possible through an IS (Coulter, 2003). An 'IS' is defined as a set of interrelated components that is capable for collecting, processing, storing and disseminating information required to support decision making, systems and business analysis as well as control in organizations (Coulter, 2003).

2.3.3 Technology

Feenberg (1990, p. 6) claims that the 'instrumental theory' renders a panoramic perspective of technology based on an intuitive notion that technologies are tools standing ready to serve the purpose of users. Thus, technology is adjudged as 'non-discriminatory' which lacked any value in its content (Feenberg, 1990, p. 6). In addition, the concept of neutrality suggests four points:

- (1) "That technology as a 'pure instrumentality' influence aspects of the societies in which they are originated from.
- (2) That the transfer of technology may be inhibited only by its cost.
- (3) That the socio-political neutrality of technology is usually attributed to its rational character and the universality of the truth it embodies which means that technology can be based on verifiable causal propositions.
- (4) The universality of technology also means that the same standards of measurement can be applied in different settings. Thus technology is routinely said that it increases the productivity of labour in different countries, different eras and different civilizations. Technologies are neutral because they stand essentially under the same norm of efficiency in and every context" (Feenberg, 1990, pp. 6-7).

Feenberg (1990) suggests that the globalising of technological software and hardware allowed for applications of indistinguishable degrees of measurement in different settings, This means that technology can maximize the capacity of labour in different countries, in different epochs and in different cultures (Feenberg, 1990). Further more, technologies can also be seen as neutral because they are mandatory by nature and are required under similar norms and values of efficiency in any and every context (Feenberg, 1990). On the one hand, while the ‘modernization theory’ studies how technically advanced groups use technology to promote social change in the industrialization error, the ‘instrumentalism theory’ on the other hand can provide the study’s research framework (Feenberg, 1990) .

2.3.4 Information Technology

In defining IT, Onn and Sorooshian (2013) contributed a list of comprehensive contemporary definitions from selected authors ranging from year 1997 to 2009 (*see Appendix 10.2 Table.1.Definitions of IT*). Grey (2013c) attests that the definition of ‘IT’ can include anything that relates to computing technology such as the www, ISs’ network hardware and software and the ubiquitous broadband and internet. Moreover, IT may envelope a wide range of information processing and computer applications such as ICT and network infrastructures, emerging technologies such as mobile telephones and devices, radio frequency identification (RFID), biometrics, digital forensics and RFID with smart objects connecting to the internet (Grey, 2013c).

Berridge (2013) asserts that since IT is capable of producing strategic solutions essential for maximising productivity and foster growth, therefore organisations need to maintain and enhance it. Furthermore, modern transformed IT enterprises constantly exploit new technologies when projecting high levels of investment by using strategic methods such as reducing operational costs, standardising processes, enhancing productivity, improving workflow and communications, sustaining repeatable service levels, improving risk control mechanisms, implementing new business strategies, facilitating organic and acquisition-driven growth and, even striving to gain competitive advantage over competitors (Berridge, 2013).

Andam (2003, pp. 7-9) introduces the concept of internet economy model which utilizes the e-network as a medium for e-commerce activities and a network infrastructure connected to the internet as illustrated in *table 3 below*.

Table 3, Layers of an Internet Economy

Example of Layers of an Internet Economy Conceptual Framework			
Layer 1	Layer 2	Layer 3	Layer 4
Internal Infrastructure	Applications Infrastructure	Internet Intermediaries	Internet Commerce
Companies that provide the enabling hardware/software and networking equipment for the world wide web	Software Companies that facilitate Web transactions; Web development design companies and consulting services	Companies that link e-commerce buyers and sellers. Companies that provide marketplaces in which e-commerce transactions can occur	Companies that sell products or services directly to consumers or businesses
Type of Companies	Type of Companies	Type of Companies	Type of companies
Networking H/S Companies Line Acceleration Hardware Manufacturers, Internet Backbone Providers, Internet Service Providers (ISPs), Security Vendors, Fibre Optic Makers	Internet Commerce Applications Internet Consultants Online Training Search Engine Web enabled Databases Multimedia Applications	Internet Commerce Applications Online brokerage content aggregators Online Advertisers Internet Ad Brokers Portals content providers	E-Trailer Online Entertainment and Professional Services Manufacturers Selling Online Airline Selling online tickets Fee/Subscriptions Companies
Examples	Examples	Examples	Examples
Cisco, AOL AT&T, Quest	Adobe, IBM Microsoft, Oracle	e-Steel Yahoo, ZDNet	Amazon.com Dell

Andam (2003)

2.3.5 Definition of Project

Schwalbe (2010) defines a ‘project’ as a temporary endeavour undertaken to create a unique product, service or result, it can be either large or small, it may involve one person or many people and can be done in one day or in many years. Blomquist, Hallgrey, Nilsson and Soderholm (2010) define the ‘project-as-a-practice’ approach as something that is being done by people, the interplay between practitioners, the episodes they create, and the tools they use. Similarly, an ‘activity’ in a focal firm’s business model is defined as the engagement of human, physical and capital resources of any party to serve a specific purpose towards the fulfilment of overall objectives (Zott & Amit, 2010). In 1985, Micheal Porter defines ‘activities’ as the building blocks by which a firm creates a product (Zott & Amit, 2010).

This study refers to the term ‘process’ as an element of the natural human mind usually stimulated from the urge to satisfy basic needs and wants or to meet expectations. Thus ‘project’ involved organic processes consisting of systematic phases (intiate, plan, execute, monitor and control, and end) that anyone can use to perform related tasks to build a product or service. This is normally referred to as the organic project life cycle (OPLC) which is usually started by gathering information to generate more knowledge concerning the new idea such as the availability of resources to determine whether or not the project is feasible enough to be

implemented. This study envisaged that a project contained temporary processes and has a defined beginning and end lifespan, and therefore a defined scope and resources. It is something unique in that it is not a routine operation, but a specific set of operations designed to accomplish a singular goal. Hence, a project team often includes people who don't usually work together, sometimes from different organizations and across multiple geographies.

2.3.6 Management

The concept of 'Management' referred to an organisation's business functions and the coordination of resources and activities to achieve goals and objectives. It involves managing employment matters such as staff recruiting, hiring and firing, rewards, health and safety matters. The 18th century industrial revolution brought about growth of factories and mass production followed by the rapid transformation of organisations to IT organisations which accelerated demands for the development of effective and efficient management processes. The evolution of the management theory fostered products of management and organisations' historical social times and places. For example, the 'Scientific Management Theory X' by Fredrick Taylor 1911 (Adeyemi, Aslam, Cohen, Singh, & Soltis, 2002; Aydin, 2012) held that the most efficient way to get a job done is to organize jobs within time and into well-orchestrated sequence of tasks. Theory Y by Douglas McGregor 1960 (Aydin, 2012; Carsons, 2005) focused on the human side of the organization and on characteristics of managers who managed employees. Theory Z by William Orchi 1981 is an approach to excellence (Lunenburg, 2011) which held that much of the conflict resolution problem can be eliminated by developing up-front investments in order to develop shared values that can lead to major decisions by consensus (Aydin, 2012). However, Theory W by Boehm and Ross (1989) held that software project managers can be successful with IT project implementation if and only if they make winners out of all the other participants in the software process including superiors, subordinates, customers, users and maintainers. More recently, the PMBOK guideline (PMI., 2013) divides PM processes into initiating, planning, execution, monitor and control, and closing processes (Koskela & Howell, 2002). Management can also be seen as the art of getting things done through and with people using formal organized groups (Koontz, 1961). Fredrick Taylor defines 'Management' as an art of knowing what is to be done and seeing that it is done in the best possible manner (Leagard & Bindslev, 2006). Henry Fayol explained that management is to forecast, to plan, to organize, to command, to coordinate and

control activities of others (Leagard & Bindslev, 2006). This study introduces the management ‘Theory V=Samoa Traditional Village People’ which encompasses and emphasizes the significance of the human phase of IT PM and calls for consideration and application of the health and safety regulations and fair employment relations to prevent exploitation of those traditional village individuals who participate in e-govt. implementations to fulfill government and external PM needs and requirements. Theory V argues that if the PMKAs processes and tools are introduced appropriately to the WS project *tufugas*, they can learn to use them appropriately see *chapter 1. section 1.6* and *chapter 3. section 3.6*.

According to Koskela and Howell (2002) the crystallization of PM in the 20th century to the theory of operations management was underpinned by the ‘transformation theory’ of production i.e., any production process can be viewed as an input-output system (Koskela & Howell, 2002). The theory of transformation works parallel with the theory of ‘IT PM tools’ (PMI., 2013) since the work breakdown structure (WBS) requires decomposing deliverables into smaller manageable tasks. Moreover, the transformation view has its intellectual origins in economics e.g. the popular ‘value chain theory’ proposed by Micheal Porter in 1985 (Koskela & Howell, 2002) which embodied the transformation view. Another example is the explicit ‘production theory’ which is based on the original view of production in economics proposed by a group of scholars (Wortman, 1992, as cited by Koskela & Howell, 2002). Arguably, since most of the transformation views are implicit and are embedded in the human thinking and practice, this may also formulated the basis of an invisible, unspoken paradigm that shapes behaviour (Koskela & Howell, 2002).

2.3.7 Project Management

The PMBOK guideline (PMI., 2012, 2013) divides the PM processes into five phases including initiation, planning, execution, monitor and control, and closing (Koskela & Howell, 2002). The guideline (PMI., 2012, 2013) provides typical PM disciplines including ten PMKAs and forty-seven group processes (Parker, Verlinden, Nussey, Ford, & Pathak, 2013) aimed to help project managers understand IT PM tools and applications and use them appropriately to their advantage (Schwalbe, 2010). Significantly, the guideline is a worldwide acceptable PM best practice for any project manager from any cultural setting to use according to their situations (PMI., 2012). Feenberg (1990) argues that technologies are neutral because they are

mandatory and are acceptable under similar norms and values of efficiency in any and every context.

Several researchers have adopted the definition of the PMI Project Management PMBOK guideline (PMI., 2012, 2013) which stated that PM is the ‘application of knowledge, skills and techniques to execute projects effectively and efficiently (Eigelaar, 2012; Munns & Bjeirmi, 1996). Gillard (2009) as cited by Eigelaar (2012, pp. 18-19) advocates that the PMBOK guideline is a distillation of knowledge, skills, tools and techniques that are generally accepted as best practice and therefore serves as a training blueprint for many business organizations and educational institutions. Munns and Bjeirmi (1996, p. 81) stated that PM can be defined as the application of knowledge, skills, tools and techniques to a broad range of activities in order to meet the requirements of a particular project.

A number of researchers have contributed research efforts to the field of PM. The studies of Chen, Wang, Liu and Chen (2010); Demeulemeester, Kolisch, and Salo (2013); Heagney (2011); Hubbard and Bolles (2012); Meredith and Mantel Jr., (2011); Olawale and Sun (2012) and Thomas and Mengel (2008) all focused on the fundamentals of PM as well as cost, time and quality. Ahlemann (2009); Raymond and Bergeron (2008) and Lyneis and Ford (2007) contributed their studies to IT and PM systems dynamics while Gasik (2011) and Nonaka and Von Krogh (2009) researched the theory of organizational knowledge creation with special applications of tacit vs explicit knowledge. Beringer, Jones and Kock (2013); Howell, Macomber, Koskela and Draper (2004) and Pisarski et al., (2011) studies focused on cultures, implicit leadership theories and internal stakeholders in project portfolio management. Grubisic, Ferreira, Ogliari and Gidel (2011) and Zeynalian, Trigunaryyah, and Ronagh (2012) explored the PM uncertainties, risks and change paradigms. Kane and Tisser (2012, p. 2) proposed a mathematical model which can be used in the phases of planning and organizing a multi-project program aimed to optimize costs of completing a group of linked projects while speeding up the realization of the whole program in order to save time. De Miranda Mota, De Almeida, and Alencar (2009, p. 176) proposed a structured model aimed to assign project tasks into three classes (class 1, class 2 and class 3) of managerial practice, based on their characteristics in relation to a set of criteria. Qureshi, Warraich and Hijazi (2009, pp. 4-5) presented a project management performance model (PMPA) to assess PM while Kharola and Singh (2014) presented a fuzzy logic model to measure PM success. Keil, Rai, Cheney, Mann

and Zang (2003) investigated the success of software projects while Seddon, Calvert and Yang (2010) presented a multi-project model involving key factors affecting organizational benefits from enterprise systems. Patanakul, Iewwongcharoen and Milosevic (2010) conducted an empirical study on the use of PM tools and techniques throughout the PLC and how they influence IT project implementations.

2.4 CSFs and/or FFs Influencing IT Projects

IT projects may suffer from one or more of the following: total failure, cost overrun, time overrun, or a rollout with fewer features or functions than promised. The concept of IT project CSFs can be defined as an element such as a 'skill' or 'resource' which a business can invest in for successful implementation of its project (Grunert & Ellegaard, 1992). For example, the market which a business is operating in can identify and explain a major part of observable differences in the perceived value and/or the relative costs. Thus, in a successful market the success or failure may stem from the value perceived by customers in a business product and the cost that had incurred in producing that value. However, how good a business is in creating customer value at low cost, depends on the skills and resources of the company (Grunert & Ellegaard, 1992). In responding to challenges driving health care services (Wickramasinghe & Goldberg, 2005) introduced a three tier architecture IS which identified successful components required to align and connect all internal and external staff of the organisation in order to enable effective interaction during business operations. This means that designing the architecture and reengineering of an appropriate client/server is critical to the success of such an IT project. When building a business's IS it is important to install the appropriate systems network software/hardware infrastructure to enable system alignment amongst end users (Aggarwal, 2010). Petter, DeLone and McLean (2008) in their paper presented a model of IS success which ignited more research efforts on the topic of project success. Lou and Alshawi (2009) argue that people and processes are key CSFs impacting on e-tendering implementations in an construction collaborative environment. Kumaraswamy (2007) provides a list of CSFs for construction ICT projects with some empirical evidences and lessons for emerging economies. Cameron (2005) develops a PM framework for e-business collaborative which included three levels of collaboration namely: (1) participant, team and representative; (2) three management functions of the lifecycle: collaboration, formation and maintenance, initiative development and the take-up implementation, and (3) four meta factors which required monitoring in order

to understand project outcomes including: motivation, capability, communication and coordination. E-business and e-commerce have brought about changes which influenced many organizations to transform their business to e-business (Holsapple & Singh, 2000; Laudon & Laudon, 2002, p.106 as cited by K. Stevens & Fowell, 2003).

However, complexities involved in the development of and the increase in the adoption of e-business were seen by others as intensifying typical business risks such as loss of revenue, business interruption, fraud, and loss of reputation (Freeman, 2000; O'Neill, 2000 as cited by K. Stevens & Fowell, 2003). Standing et al., (2006) argue that a better understanding of risks and mitigation techniques could be generated by a more in-depth and detailed study of the actual projects. Chua and Lam (2005) grouped FFs influencing knowledge management (KM) projects into four distinct categories namely: technology, culture, content, and PM disciplines. Almajed and Mayhew (2013) argued that the FFs that can potentially influence IT project success in the Saudi Arabian public organizations included conflict of interest, knowledge management, rewards and recognition, top management stability, PMO, and top management support and commitment (Mesnita & Vasilica, 2003). Blindenbach-Driessen and van den Ende's (2006) study focused on innovation management in project-based firms e.g., engineering and construction companies and compared them to service firms such as consultancies and system integrators. They discovered that the major differences between them were due to distinguished structures and capabilities of project-based firms. Hanafizadeh, Gholami, Dadbin and Standage (2012), Nah and Delgado (2006), Nah, Lee-Shang Lau and Kuang (2001) all studied the Enterprise Resource Planning (ERP) systems and discovered a number of CSFs that were categorized in seven main categories including: business plan and vision, change management, communication, ERP team composition skills and compensation, project management, top management support, championship and system analysis, selection, and technical implementation influencing enterprise systems. Lee (2005) argues that e-govt. have distinct set of business value sources that are different from those of e-business projects. Kelegai and Middleton's (2004) study examined factors influencing IS of PNG organisations. Ab Talib and Abdul Hamid (2014) researched published academic work on CSFs in supply chain management fields to review CSFs influencing implementations. Sangar and Iahad (2013) explores CSFs affecting implementation of Business Intelligence

Systems' from the perspectives of both management and technology. Pinto and Mantel Jr. (1990) conducted a study on failed projects identified as 'failures by project managers'. The FFs were identified by the type of project and during each process of the project life cycle. Aziz and Salleh (2013) in their paper, have identified IT projects CSF and FFs focusing challenges of human resource. Xu and Hwang's (2007) study focused on identifying CSFs and how they influenced the data warehousing implementation success. Ngai, Cheng and Ho's (2004) study identified five CSFs of web-based supply chain management systems namely communication, top management commitment, data security, training and education, and hardware and software reliability. Gardner and Ash (2003) in their paper presented a preliminary framework for making sense of and managing change in organisations that have adopted ISs and e-commerce as a core element of their business strategy. Miskon, Bandara, Gable and Fiert (2012) conducted a multiple case study of shared service experiences in higher education and identified ten important antecedents of shared services success. Love, Irani, Standing, Lin and Burn (2005) explored the benefits, costs and risks of IT investments in 130 SMEs in Australia. The results showed that organizations were significantly differ based on the size of funds they invested in IT. Kappelman, McKeeman and Zhang (2006) studied the top 12 people-related and project-related IT project risks, based on "early warning signs" using data collected from a panel of 19 experts and a survey of 55 IT project managers. Keil, Cule Lytinen and Schmidt's (1998) study concluded that lack of top management commitment, a failure to gain user commitment, and misunderstanding of the requirements were the top risk factors influencing software projects. Nikakhtar and Jianzheng (2012) proposed a model in decision system support (DSS) useful to evaluate risks in e-commerce. Yeo (2002) conducted a Singapore-based survey to determine FFs perceived as influential based on the respondents' experience in a major 'failed' project. Shehu and Akintoye (2010) conducted a study in UK to determine major challenges impacting practices of construction programme management.

2.5 Summary

This chapter reviewed the existing literature to find out what has already been done and/or has not been done in order to help set a clear direction for this study. The major problems that contributed to the failure of the fifty-four ADB-WS e-govt. projects from 1998-2015 involved exclusion of IT and ISs and citizens. The lack of literature involving the WS e-govt. projects

from 1998 to 2015 has presented an opportunity to study sparse reports and unobserved data from the ADB, WS and the Youtube websites to content analyzed the WS e-govt. projects in order to answer research questions. Grey (2014-2016) author of this study's contribution to the academic community knowledge base are listed in this chapter. The e-govt. concept was defined in details. Specific themes and theories from the research topic have been discussed to generate further insight about the phenomenon under investigation. A number of authors have contributed valuable work in the fields of e-govt. IT PM and tools as well as the IT projects CSFs and FFs.

3 Chapter Three-The Samoan e-Govt Context

3.1 Introduction

Worldwide, e-govt. has been in operation for over the last decade but it has failed to contribute to improve public service delivery (Misra, February 2007) as in the case of WS. For example, the administrative reforms, which occupied the centre stage in e-govt. worldwide have gone through three phases of reform and transformation including: (1) the Pre-1980s traditional regulatory bureaucracy which focused on building authoritativeness, rigidity and rule orientation; (2) the transformation in the 1980s to the new public management administration which encouraged the application of corporate practices and result-orientation; and (3) the e-govt. transformation in the mid-1990s based on citizen-centric interactive and responsive administration. WS is a small nation located in the South Pacific which has been heavily impacted by the world governments e-govt. transformation since the past decades. The island of WS since year 2003 has been promoted by the UN from an underdeveloped nation to a developing nation. WS prior to year 2003 has been undergoing continuous rigour socioeconomic reforms and has relied heavily on resource donations from world partners. The concept of e-govt. has four main components: e-govt, e-citizens, e-business and IT. E-govt. involved planing, designing and building many types of IT businesses. Projects are the main vehicle used by governments and organisations to implement IT solutions. Lack of PM knowledge on how to manage IT implementations is a major problem. This chapter explores and investigates the WS e-govt. and in particular, how the traditional indiginous people do things. The chapter also aimed to define why the study suggested for the traditional project tufugas and the WS e-govt. based organisation to adopt the PMI IT PM guideline and applications to help improve implementations in future.

3.2 Background

Western Samoa is an archipelago of seven islands located in the South Pacific at approximately 2,400 kilometres (km) north-east of NZ (Tubadeza, 2011). It is a small country with a total land area of 2,820 km. The WS island population was estimated at 170,000 in 2000, increased to 183,400 in 2009 (Tubadeza, 2011). Its annual gross domestic purpose (GDP) growth averaged at 4.3% between 1999 and 2007 which mirrored a salient improvement from the

modest economic growth which averaged 17% per annum in the 1980s until the late 1990s (Tubadeza, 2011).

According to Aghion and Howitt (1990) the SOG and the DONI as well as the DOIT (Winkler et al., 2011) continued to drive constant change seriously affecting WS's socioeconomic systems which quickly outdated traditional products thus putting pressure on the WS e-govt. to mitigate risks and to keep up with the rest of the world as demonstrated in the continuity nature of the WS-ADB projects (ADB., 2014). Overtime, the people became the major drivers of change which reflected high levels of demands for IT needs and expectations. For example the Internet World Stats in December 2000 reported that there were 500 Samoan internet users. On June 2014, the population peaked at 196,628 people and the number of internet users peaked at 30,084 up 15.3% penetration rate, compared to Facebook users, which peaked at 21,800 at 31 December 2012. As of November 2015, both internet and facebook users increased to 54,000, showing a 27.3% penetration rate (IWS, Retrieved 10 February 2015). Yet, Samoan project managers are still using the traditional methods without IT and ISs (TheIWCWaterChannel., 2012).

In WS, building a house or a business is important as it would involved considerable amounts of financial expenses and resources (UNESCO., 1992). This means that failure to manage and monitor resources such as time, money, and quality constraints often lead to a dead end project. Moreover, WS is primarily vulnerable to tropical cyclones, lengthy droughts, flooding and earthquakes (Fairbairn, 1997) . For example, the destructive cyclone Ofa in 1990, the cyclone VAL 1991, and the Tsunami 2009 (Wheeldon, September 2010) all of which have caused high levels of damages in many parts of the island which affected many people, agricultural ecosystems, buildings and infrastructures that required fast substantial relief and rebuilding efforts (Fairbairn, 1997) . The national social and economic reforms can be traced as far back as the 1940s until 1998 when the pace in implementing e-govt. projects accelerated (ADB., 2014) . WS was heavily influenced by global e.govt. reforms which increased the DOIT which negatively impacted the nation's society. From year 1998, the experiences of WS e-govt. project implementations (ADB., 2014) continued to the current time focusing mainly on developing and building industrial, manufacturing ecosystems infrastructures, the e-business and service industry, the business law reforms as well as entrepreneurship nationwide (ADB.,

2014). Yet, with these e-govt. projects, IT and ISs appeared to be excluded from each major project deliverables and requirements (ADB., 2014).

3.3 WS e-Govt. Transformation

Project is the major vehicle used by all governments and businesses to implement change (Schiltz, 2003). The e-govt. concept involved building many types of businesses. More over, the WS e-govt. is a project-based organization. Hence, it requires successful collaboration of expertise from the best PM personnel from around the world in combination with top level management both government and private sectors, staff and users. The WS e-govt. approach excluded the the citizens and IT components while focusing on creating an executive type of e-organization. The failure of the e-govt. of WS to recruit an appropriate PMO to oversee and manage its projects 1998-2015 is another major FF influencing implementations. Moreover, the e-govt. approach led to the making of an executive government organization which focused more on creating an electronic service industry to take control of IT and ownership of business community. The e-govt. services and business design depended on the citizens needs and expectations, while ICT makes it work. Hence, e-govt. e-citizens, e-business and ICT are in juxtaposition and work in unison, thus, it is vital for all four components to be included in the e-govt. plan and design. In addition, the total cost of each e-govt. project usually involved millions of dollars year after year (ADB., 2014) . Furthermore, it is difficult to identify the IT deliverables the locals can expect to be delivered and installed in the actual location of the projects (TheIWCWaterChannel., 2012). While small e-business may not generate as much money as large IT companies do, small business is still a critical component of, and a major contributor to, the strength of the local economy of Samoa as it is the main economic engine for the country (ADB., 2014).

The documents available from the ADB website from the 1998 to 2015 constitute a longitudinal approach to this study. It allows for systematic tracking of the development and progress of the WS e-govt. projects in order to identify how they continued to exclude IT and citizens, even though the island was already overpowered with IT. Moreover, while IT has long become ubiquitous in the developed world, ISs have also become critical communication means to the private and public sectors, to individuals, organizations, nations and global institutions. In addition, ISs have pervaded diverse areas such as agriculture, manufacturing, services education, medicine, defence and government so that now IS affects almost everyone

(Myers & Avison, 2002). Unbelievably, IT and citizens of WS are still excluded from the WS e-govt. socioeconomic projects.

When initiating a project, the WS project administrator reviewed the existing projects documentations and applications annually to maintain project continuity (ADB., 2014). Generally, any government official can apply to the ADB for review of a specific existing project and/or apply for further expansion of funds according to the bank’s policies. These practices are usually treated as general loan applications rather than a e-govt. projects. Each of the forty-five WS e-govt. projects was initially submitted as a single major project to the ADB (ADB., 2014). A conceptual mind mapping framework of the WS e-govt. projects in relations with the ADB requirements is demonstrated in *figure 3 below* which began with the problem or opportunity identification process. Usually an appropriate WS government sectorial group or project administrator/s would initiate an e-govt. project based on public or ministerial views or from past experiences or to update previous project applications according to the ADB policies (ADB., 2014). This would usually be followed by kick off meetings and intensive discussions with appropriate groups based on each geographical location as demonstrated in some of the WS e-govt. project documents e.g., Strengthening Economic Sectors Planning and Management; Implementation of State-Owned Enterprise Reforms (ADB., 2014).

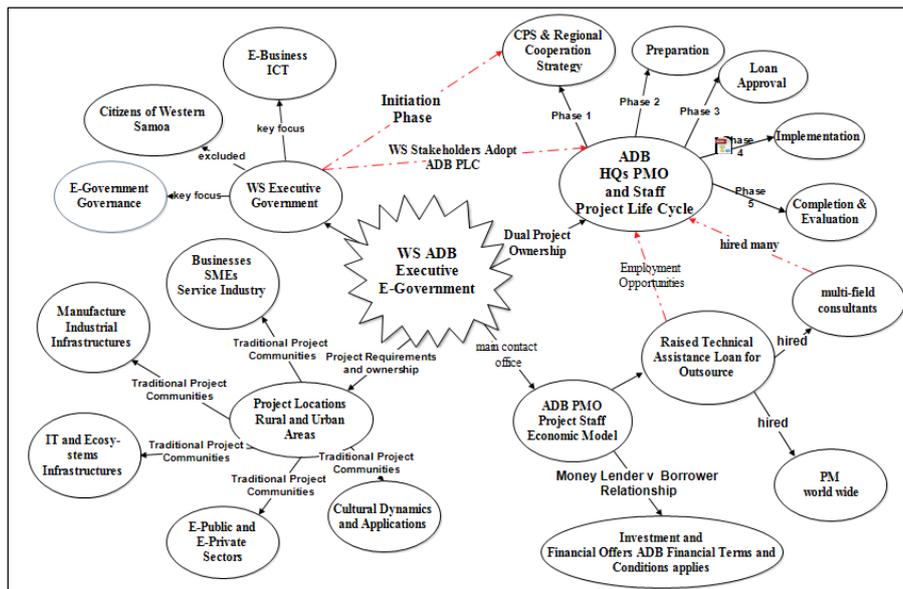


Figure 3. Executive E-government ADB Relationship Mindmap

Usually, the administrators in fulfilling the project conceptual life cycle (CLC) requirements would use the ADB project templates and/or application forms to facilitate communication

with local stakeholders who are expected to participate in the project PLC processes (ADB., 2014). Once appropriate information has been gathered, it is reviewed, documented and approved. The approved reports are submitted together with the e-govt. project application to the ADB for consideration (ADB., 2014). The ADB after receiving the applications proceeded in decomposing each major project into smaller sub-projects (ADB., 2014). The expected result of this initiation process is the ADB Country Partnership document (ADB., 2014) which aimed to create better alliance with the applicant (country). A technical assistance application for preliminary funds (usually \$US1-2m) is also automatically raised and approved in order to hire expert consultants in various fields to further breakdown the major project in to smaller manageable tasks (ADB., 2014). Meanwhile in the Samoan camp, the major project stakeholders await the project loan approval document which is usually posted on the bank's website (ADB., 2014), which signified the beginning of the e-govt. project implementation. The ADB PLC phases is the first and foremost important project tool which all stakeholders are expected to adopt according to the ADB associated procedures and rules (ADB., 2014). The WS small business enterprise centre (SBEC) was one of the major e-govt. projects with the ADB.

3.4 Western Samoa SBEC

The WS small business enterprise center (SBEC) is a service industry project that was implemented in central Apia financed by the ADB. According to the service industry's report (SBEC., 2010), its key role involved facilitating information sharing between different business sectors and entrepreneurs who may wish to set up new businesses. The type of information available involved the status of the national economy and business opportunities for small business owners to invest in. In addition the SBEC facilitates small business owners by providing training, advisory services and support as well as facilitating micro finance for potential business start up (SBEC., 2010).

The report SBEC (2010) summarized the strength of Samoa's service sector which contributed about \$950m towards the national GDP. The SME service industry contributed in total 64%, an increase of 51% in 2001 to the GDP. The Commerce Service Providers (including the Australian and New Zealand bank (ANZ); National Bank of Samoa (NBS), the Samoa Commercial Bank Ltd (SCB) and the Westpac bank; the construction companies (Ah Liki, Fletcher) and transport companies (Betham Brothers Enterprise (BBE) Ltd Samoa as well

as the Transam and Queen Poto led by 29%, followed by the transport and communication services at 20%, the monetary construction at 14% and finance and business service at (13%) while the construction service providers (including government corporations such as; WS Electric Power Cooperation (EPC), SamoaTel (Information and Telecommunication Services and the Samoa Water Authority) accounted for 5% (SBEC., 2010). The service industry also offered offshore financial services, with gross revenue estimated to reach \$US4m in year 2005 (SBEC., 2010). Interesting, while the Samoan SME and service industry seemed to be growing exponentially according to the report, there is still the Samoan traditional rural and urban community entrepreneurial and small business communities that are central to e-govt. socioeconomic sustainable development projects who are also key stakeholders who have been excluded from e-govt. projects.

3.5 Indigenous Knowledge (IK)

Past research have focused on the preservation and management of IK (A. Stevens, 2008). For example, some studies emphasized on the management of IK and suggested potential tools and solutions to address specific challenges (A. Stevens, 2008). Some researchers have examined the cultures of some Pacific Islands and their colonial relations through local record keeping practices (Wareham, 2002), in the same way others have discussed record keeping in the Fijian and Samoan cultures (Herbig, Zöhrer, & Zamolyi, 2003). Researchers such as Abioye, Zaid and Egberongbe (2011) emphasize on developing better ways for documenting and disseminating agriculture IK for sustainable food security while Angassa, Oba, and Chr Stenseth (2012) investigate community-based IK for vegetation in areas such as the Arid African Landscape. Lwoga (2010) investigates public access for ICT (telecenters and rural radio) in Tanzania by assessing practices and information services for small-scale farming activities. The United Nations Conference on Environment and Development (UNCED) process of the Agenda 21 is a multi-sectorial plan of action involving environmental development issues and concerns of the 21st century peoples of the world (Reti, 2000). Interestingly, Aggarwal (2010) argues that some studies assumed that the IK and the Western knowledge are different. The author of this study Grey (2014-2016) argues that the IK have a lot to contribute to the current knowledge and can be integrated and coordinated with the IT PM and tools modern applications to help improve e-govt. projects' approach for social and economic reforms in small countries such as WS since the western knowledge works in parallel

with the traditional WS knowledge resource reservoir. The above discussion raised concern about the IK and applications. While each study involved implementations of a variety of projects none focused on ‘projects’ which is the vehicle used by most governments worldwide for implementing changes and innovative strategies in an effort to eliminate stagnant starvation and poverty.

3.6 Theory V= WS Traditional Village People

This study argues that governments worldwide have long been transformed from traditional business practices into e-business in order to help accelerate free market reforms and improve service delivery for public consumption as in the WS case (ADB., 2014; Moon, 2002; Tat-Kei Ho, 2002; Wong & Welch, 2004). Yet, WS’s rural and urban villages are still very much lacking sufficient IT with appropriate communication network infrastructures.

The management theory V = WS traditional village people defines the traditional Samoan PM and the call for help to improve e-govt. approaches. IT examines how the Samoan project tufugas initiate, plan, execute, monitor and control, and close projects the rationale of Theory V is fourfold as shown in *table 4 below*.

Table 4. Theory V Rationale

No	Theory V Rationale
1	Western Samoa is a small developing nation undergoing continuous social and economic reforms in an effort to improve general living standards. Theory V encompasses and emphasizes the significance of the human phase of IT PM Tools and e-business. Management Theory V calls for consideration and application of health and safety regulations and fair employment relations for preventing exploitation of the WS traditional village people.
2	The Ten PMKAs are worldwide acceptable best PM practices available to all cultures in order to help improve IT Projects implementation.
3	There is a need to review the WS current IT Project implementations to fit in the IT PM best practices in order to solve current issues challenging social economic reforms.
4	IT ‘Project’ is the major vehicle the WS e-govt. transformation is relying upon to implement changes. IT projects (e-govt.) can only be made possible using Information Technology, therefore WS government need to develop or adopt the PMBOK PM and Tools and hire either an experience Project Manager and/or establish an appropriate PMO to manage and control IT project implementations.

The proposed management ‘Theory V’ recommends ease of use, user friendly, free or low cost IT open source software applications that can meet the needs of the Samoan people. Theory V may include all Samoan individuals, groups and communities. Theory V holds that the IT project PM tools in combination with the traditional skills and knowledge can be used

effectively to implement social economic reforms and everyday living projects. For example, creating a business or an entrepreneurial activity required some form of planning to ensure that money is not wasted on starting up a business only to fail.

3.6.1 The Unique Samoa

When researching and developing the concept of a ‘Samoan Intelligent Information Society’, (Grey, 2013c), it was found that the remote village units of the Samoan Islands, referred to as the uncultivated traditional rural and urban ecosystems, were already heavily influenced by the DOIT but are still unconnected to any form of IT and ISs infrastructure. The key objective of the study focused on identifying manual operational services and production systems that may have the potential to be transformed into shared information resources in the form of ICT services (Grey, 2013c). Further, the study investigated the Samoan manual networked village system which is similar to an organization unit as illustrated in *figure 4 below* (Grey, 2013c).

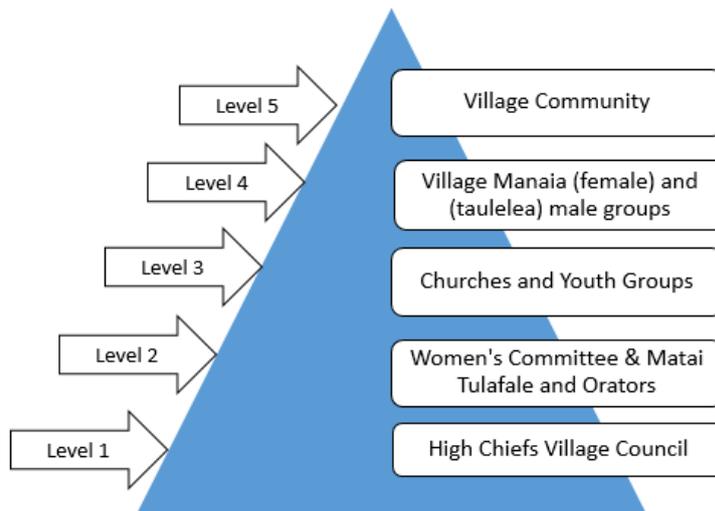


Figure 4. WS Village Governance Structure

In addition, the study described the village community or constituency governance or council also known as the Faasamoa or the Matai System structure which is a bottom-up approach compared to an organizational hierarchical top-down model. In addition, in the WS Intelligent Information Society model (Grey, 2013c) the study tapped into the uncultivated areas in order to identify the potential coverage data flow dimensions on the basis of natural resources, household production and producer services that are under the administration of the hierarchical village council institutional manual systems.

Level 1 of the above structure represents the village council governance of high chiefs appointed by family members who are responsible for planning, designing, implementing, monitoring and control implementations of short and long-term strategic plans for the development of the unit. Level 2 included the council of high chiefs' wives and second level matais (*chiefs or matai alii tulafale, tulafales*) who are mainly responsible in carrying out functional and operational strategies of the unit (Grey, 2013c). Level 3 draws in different government public sectors and community groups who are responsible for providing products and services to the village community for example: health nurses, police employees, church leaders and so forth. Level 4 represents certain family male and female classes who contribute their efforts in delivering services and other functions for betterment of the village locals. Sitting on the top level of the hierarchical pyramid is the village local community population which symbolizes that the village council makes the overall population of the village the most important element of its daily work (Grey, 2013c).

3.6.2 The Traditional Samoan Way

The early Samoan civilization has much in common with many other civilizations. For example, diverse cultures required tools, resources, people, personal judgement and dexterity according to economist Adam Smith (Butler, 2011) to implement specific tasks relevant to everyday living. While this is the age of science and technology, the Samoan village communities continued to embrace the Samoan traditional ways to implement family and/or individual entrepreneurial and business ideas (Archivesnz, 1995; Archivesnz., 2012; Mears, 2012). Two examples involved the use of traditional tools and language (Mears, 2012). This section focused on exploring how it was and still is in the Samoan Village community way of life. The human species depend on various basic needs that must be satisfied in order to survive. For example, families need shelter, food, water, fire (or electricity), clothing, love, emotional release and so forth. To obtain material needs, the early Samoans like any other race of people would use a variety of knowledge, skills, dexterity, creativity and personal judgement as illustrated by economist Adam Smith (Butler, 2011) that enabled them to create tools needed for hunting for food and gather resources for building homes etc. Both the old and current Samoan folks depended purely on scarce natural resources such as coconut trees and vegetation from the land to satisfy basic needs. Usually, in any civilization, the three major challenges facing the group are, the taste for good things (e.g. good food), availability of tools (spear, nail,

string) and scarce natural resources (trees, animals). Hence the reason it is essential to develop a system to exchange goods or services amongst the inhabitants of Samoa. It is this part of the human needs and how they satisfy them that is underpinned by the term 'project' in the Samoan Way. Projects in the Samoan way are language driven so that communities, individuals and family projects are referred to by either the name of the product or by the government strategy or however the individual name the product or need. For example: a Samoan tufuga in the Samoan language would explained project tasks to his/her team which means the term 'project' in the english language is not used by the locals. The meaning of the term project in the Samoan way of life may be explained as such: '*galuega fuafuaina poo galuega fia fai aua le atinae ole aiga mo le lumanai*' (defined the type of activity). The project documentation as emphasized in both the PMBOK guideline (PMI., 2012) and the ADB (ADB., 2014) are not practise because of the unavailability of the IT and ISs and applications in village locations. The media analysis of the Samoan projects revealed that even for a Samoan village entrepreneur, the concept of management is an automatic organic method (OPLC) which involved applying of natural wisdom in managing the initiation, planning, implementention, monitor and control, and end processes related to an activity/project in combination with the appropriate tools and techniques to ensure fast successful implementations at minimum cost. For example, a Samoan entrepreneur had an idea that he/she believed will benefit the community. He/she gathered relevant information from families and community members in order to generate insight about the feasibility of his/her idea. He/she would also discussed the idea with bank officials about obtaining a loan to assist in starting up the business. He/she have approached a Samoan tufuga from the village to build the new business fale (*building*) in a specific location (this indicated that the project owner had already got this idea going inside his thinking capacity). The tufuga would discuss with his team pertinent aspects of the fale he has been asked to build (This indicated that the tufuga is obviously a trustworthy skilful individual who is a builder and knows what to do, also he too participated in the initiation and planning of the project). The traditional tufuga had no formal education but he would conveyed the plan for building the business asset to his team through verbal communication, or use a paper and pencil if available. For example, a tufuga would discuss (*indicated the mode of communication being employed*) with his team the type and size of the fale he has been asked to build. The team individuals will do their calculations by counting with the help of the fingers and toes, and from here on they

would automatically do the addition, multiplication or subtraction and divisions to arrive to the total amount of poles to be cut from a particular tree in the forest (*indicated the tools used for calculation and gathering poles*). The tufuga with his mind and memory if there is no paper or pen, would record some of the important notes the team have agreed upon (*indicated that in these modern times information technology would be a great tool to use*). Under a special government financial scheme for business development the project owner's loan has been approved and he proceeded with his tufuga and the village project team to implement the project. The exploration of the Samoan traditional PM has indeed revealed that a Samoan project concept adopts the OPLC phases (initiation, planning, execution, monitoring and control and end) which are similar to the modern western IT project management approach.

3.7 Summary

This chapter focused on exploring and discussing the WS e-govt. approach. 'Projects' are the major vehicles used by all business and governments to implement IT projects. The WS e-govt. is a project-based organisation. The complexities of e-govt. projects are highlighted by certain attributes. Firstly, they are country and international level types of projects, secondly, they are multifield-multiprojects, thirdly, they involved building many types of business. E-business required ongoing planning and designing of systems architectures and reengineering and deployment infrastructures. They also required collaboration of knowledge and skills from world top level PMs, consultants and top management support as well as the participation of local project communities and end users. Thus it is important for the WS project tufugas and officials to understand and learn to use project management disciplines.

4 Chapter Four –IT Project Management Tools Context

4.1 Introduction

One of the major research questions in this study asks: How may the PMKAs processes and disciplines help improve the Samoan traditional project and e-govt. projects in future? The concept of PMI PMKAs and processes is one of the chosen data source for the research methodology conducted in *chapter 5*. This chapter describes and discusses the ten PMKAs processes tools and applications in detail. A proposed PM SDM in combination with the OPLC model is presented in this chapter. In addition, some basic PM tools, e.g., the WBS, project schedule, gantt chart, activity on node and activity on arrow are modelled and described in detail.

4.2 Project Management Office (PMO)

J. Ward and Daniel (2013) argue that organisations are increasingly using projects as a means of implementing strategic change. For example, given the important role IT plays in modern organisations, many organisations are prepared to invest financial resources in new ISs. Furthermore, the combination of the number of projects being undertaken and the complexities of managing them have resulted in many organisations attempting to improve control, coordination and in some cases rationalisation of their projects by establishing PMOs (Singh et al, 2009; Artto et al, 2011; Martins & Martins, 2012 as cited by J. Ward & Daniel, 2013). According to Anderson et al, (2007 p.98) as cited by J. Ward and Daniel (2013), a theme which consistently being adopted across PMOs calls for systematic coordination and unified handling of key project-related tasks so that organisations can be more successful in the projects they undertake. Usually, the project managers and project teams are recruited by the governance and management of organizations to implement their IT projects once the ITOC and strategic solutions have been identified and approved, while some organisations may opt to recruit a PMO. Moreover, the appointed project manager and team members are expected to bring to the PMO PM knowledge as well as technical skills and experiences e.g., knowledge of a TSDM or an OPLC phases. The organisation may assigned various responsibilities aimed to centralize and coordinate management of those projects under the PMO's domain (Andre, February 2015). The roles and responsibilities of the PMO may range from providing PM support functions to being responsible for the direct management of a project. The PMBOK guideline

(PMI., 2012) identified five different types of PMOs (Nehme, February 2015) see *table 5 below*.

Table 5. Five types of PMO

Types of PMO	
Departmental	Supports a specific business unit or division
Project Specific	Oversees the success of a particular project.
Strategic	Oversees a major organizational change.
Project Support	Handles administrative tasks to speed project completion.
Centre of Excellence	Provides project managers with ongoing training and tools.

Some roles and functions of the PMO are categorized under three levels as shown in *table 6 below* (J. Ward & Daniel, 2013).

Table 6. Roles and Responsibilities of the PMO

Levels	Activities Commonly Undertaken by PMO
Strategic	Ensure long-term alignment of Projects with objectives of the organisations and contribute to their strategic growth. Efficient and effective knowledge management to improve policies, practices and methodologies of the organisation.
Tactics	Ensure close integration between ongoing projects Ensure consistent quality of products and services generated by projects. Knowledge sharing across ongoing projects.
Operational	Provide regular status reports to decision-makers and coordinating communication about projects. Ensuring information is available to inform specific project decisions Acting as a central source of knowledge on project management including best practices and standardized methodologies. Conducting routine project evaluation.

Source: Desouza & Evarisiton (2006)

4.3 IT Projects

Maserang (2002) argues that an IT project is unique depending on the type of change impacting business operations, priorities and resources assigned to it, the environment in which it operates, and the project manager's attitude and style that is being utilized to guide and control project activities. Thus, an organization may need to redesign its strategic fit within that project's operating constraints to correspond with changes in priorities, availability of resources, project personnel, laws, and other contingencies (Maserang, 2002). In addition, the organisation's management may need to integrate their knowledge in order to achieve balance between limited personnel, financial resources and the objectives of the project in order to achieve successful implementation (Maserang, 2002).

4.4 IT Project Management Disciplines

Partington, 1996 as cited by Parker et al., (2013) explain that the use of project-based management as a discipline and as a generic skill has been widely espoused and adopted by most PM industries and even community-based projects. For example, one of the areas in which its effectiveness has been challenged involved implementation of ITOC to improve productivity and performance (Winch et al., 2012 as cited by Parker et al., 2013). When implementing organisational change the project manager is expected to employ effective tools and techniques such as PMKAs processes and disciplines (Parker et al., 2013). The PMBOK standard guideline (PMI., 2012, 2013) is a worldwide acceptable PM practice which PM throughout the world may choose to use effectively according to the situation. In this study, the decision to choose the PMBOK ten PMKAs processes and disciplines as one of the study's data source stemmed from the idea that the WS's traditional knowledge resource repository works hand in hand with the Western knowledge and the English language (Mears, 2012; MicroDreamsDotOrg., Aug 19 2009a, Aug 19 2009b, March 31 2009; PMI., 2012; South274., 2009). In addition, a 'Project' requires technical disciplinary knowledge tools and technical guidelines such as those offered by the PMBOK standard guideline that can be shared by all project managers (PMI., 2012, 2013). The ten PMKAs and 47 group processes are listed in *table 7 below*.

Table 7. IT PMBOK Disciplines-Research Units of Analysis

No.	Ten Project Management Knowledge Areas Processes
1	Project Integration Management Knowledge Area (PIMKA) – 6 GP
2	Project Scope Management Knowledge Area (PSMKA)– 5 GP
3	Project Time Management Knowledge Area (PTMKA) – 6 GP
4	Project Cost Management Knowledge Area (PCMKA) – 3 GP
5	Project Quality Management Knowledge Area (PQMKA)– 3 GP
6	Project Human Resources Management Knowledge Area (PHRMKA) – 4 GP
7	Project Communication Management Knowledge Area (PCMKA) – 4 GP
8	Project Risk Management Knowledge Area (PRMKA)– 6 GP
9	Project Procurement Management Knowledge Area (PPMKA)– 4 GP
10	Project Stakeholders Management Knowledge Area (PSMKA) – 6 GP
OPLC	Organic Project Life Cycle
TSDM	Technical Systems Development Methodology
KEY	G=Group, P=Processes

PMI PMBOK 5 Guidelines (2013)

The PMBOK5 (PMI., 2013) defines PM as the application of knowledge, skills, tools and techniques to project activities to meet project requirements which can be achieved through the use of processes such as initiating, planning, executing, controlling and closing in combination

with a SDM such as the SDLC stages and an OPLC phases. Furthermore, the knowledge areas are proven standard practices that are widely applied, together with the knowledge of innovative and advance practices (PMI., 2012). Moreover, the PMKAs and processes are clarified according to organisations and people's requirements based on needs, wants and expectations (PMI., 2013). The PMBOK defines inputs, outputs, tools and techniques in accordance to each knowledge area (PMI., 2012, 2013), each of which is explained in detail below. The role of the project manager is to manage the project work which typically involved competing demands for scope, time, cost, risk and quality in combination with various stakeholders with differing needs, expectations and identification of requirements (PMI., 2012). Many of the processes within PM are iterative in nature which is partly due to the existence of, and the necessity for, progressive collaboration in a project throughout the PLC (PMI., 2000). This means that the more the project managers know about the project, the more they are able to manage IT projects.

4.4.1 Project Organic Life Cycle (OPLC)

Processes involved sets of tasks necessary to produce a result. The OPLC may be seen as the means an individual or group of people would go about in executing required tasks to achieve goals and objectives. Usually, a project manager would use the OPLC phases (initiate, plan, execute, monitor and control, and close) that any individual or group of people regardless of cultural aspect would normally go about in doing something (PMI., 2012). More recently, the PMI PMBOK guideline added a fifth element which is 'monitoring and controlling' to its PLC phases (PMI., 2012). The OPLC phases are processes that described what must be done (activities) and produced to achieve the outcome of each phase (PMI., 2012). Further, a series of re-usable techniques and work practices are at the core of the foundation of the processes and techniques and can be improved using a range of tools, applications and project document templates (PMI., 2012).

4.4.2 Technical Systems Development Methodology (TSDM)

An IT project can not be an IT project without IT. The complexity and technicality of an IT project may stem from the IT requirements necessary to meet the needs of an organisation. The project manager may use the OPLC and any TSDM concurrently when implementing an IT project (PMI., 2012, 2013). This study adopts the new interative SDLC model's stages

including planning, analysis, design, implementation and testing, and support and maintenance as demonstrated in the PM SDLCPLC model in *figure 5 below* (Wickramasinghe & Goldberg, 2005). There are several options available for the project manager to design an IS e.g., the Object-Oriented (O'O) method which views the system in terms of objects that combined data and processes (Shelly & Rosenblatt, 2010). In addition, the structured systems analysis method which is based on the traditional systems development technique or the waterfall methodology is a flexible iterative, time-tested methodology which uses a series of phases called the SDLC to plan, analyse, design, implement and support an IS. Despite the old SDLC shortcomings, the new iterative SDLC can be a better SDM choice suitable for e-govt. projects (Wickramasinghe & Goldberg, 2005).

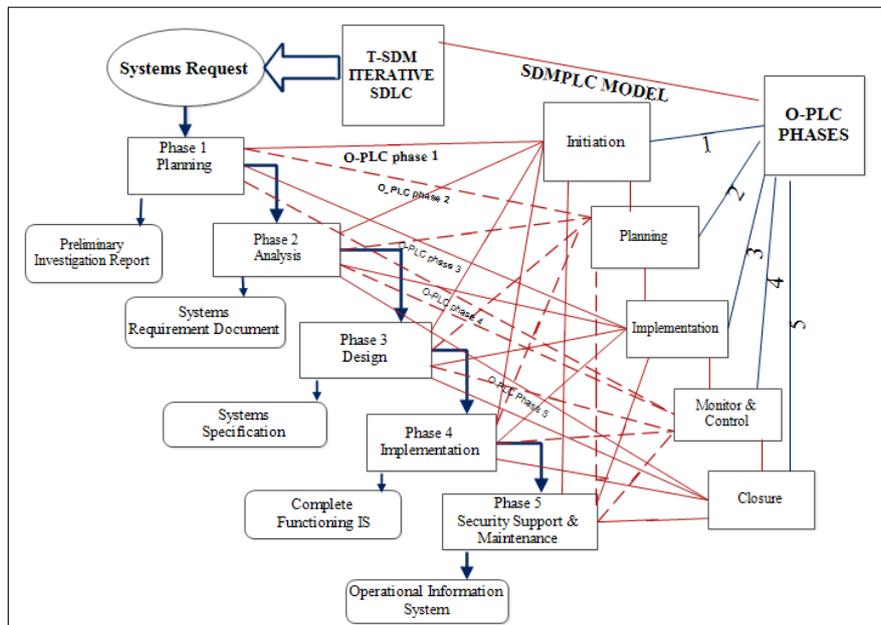


Figure 5. Proposed PM SDLC-PLC Model

4.4.3 IT Organisational Change (ITOC)

ITOC may be driven by a number of internal and/or external factors influencing every business decision being made. Examples of internal factors may include outdated existing systems and data, an IT department systems upgrading, a user request, organisation top management decisions and strategic plan (Shelly & Rosenblatt, 2010). Some external factors influencing business operations may include changing technology, growth of electronic data interchange, relationships with suppliers or an IS that interacts with customers that usually received top priority. Moreover, competitors can drive many IS decisions, e.g., if one mobile telephone

provider offered a new type of digital service, other firms may need to matchup or reposition their strategic plans in order to maintain competitiveness (Shelly & Rosenblatt, 2010). IT projects are usually initiated as in the following example “The manager of an organic farming business has noticed a drop on sales for the last 3 months. The company is operating using an old transaction system. The manager after identifying the business problem, decided that the family business has reach maturity and required expansion. He decided that the business long-term would potentially increase growth if the current system is replaced with an appropriate IS. Using an online systems request form the management informed the IT consultant about the problem. The IT consultant immediately conducted an investigation of the current system which included a system evaluation and a technical, economic and scheduling feasibility analysis”.

4.4.4 Intiation Phase (IP)

According to Shelly and Rosenblatt (2010) the IP usually begins with a formal request to the IT department namely a ‘system request’ which briefly described a problem requiring change to an IS or a business process. Usually, a preliminary investigation is conducted by the IT administrator which involved gathering information from existing staff members and external stakeholders about the problem pertinent to the development of the new product or service (Method123., 2014; PMI., 2012). In this phase, the project manager and project team are hired and/or a PMO is set up to manage and oversee the implementation of the project (Method123., 2014; PMI., 2012). Examples of key deliverables that are produced in this phase included the business case, the feasibility study, the project charter, PM recruitment, project office checklist and the phase review form (Method123., 2014).

4.4.5 Plan Phase (PP)

The PP of the iterative SDLC methodology begins when the project has been formally approved and funded. The PP (see *table 8 below*) consists of those processes that are performed to establish the total scope of the project , define and refine objectives, and develop the course of action required to attain those objectives (Sharma, 2014).

Table 8. SDLC Plan Phase

No	Iterative SDLC Planning Phase
1	Project Plan - Identify WBS, efforts and resources for the project, a complete work example of the project schedule.
2	Resource Plan - Identify quantity of financial expenditure required for the project including labour, equipment, materials, administration and other costs schedule expenditure and total cost of project per activity.
3	Quality Plan - Identify potential risks early within the project, create a set of preventative and contingent actions needed to reduce the likelihood of risk occurring.
4	Acceptance Plan - Need to gain full acceptance of the customer for deliverables produced by the project. Create acceptance milestones and criteria for acceptance and a schedule for acceptance review.
5	Communication Plan - Identify all project stakeholders and deliver the right message at the right time.
6	Procurement Plan - List requirements for external goods and services, describe outsourcing and plan for acquiring them for the project. Describe tender process for suppliers and products.
7	Tender Management Process - Identify the plan for procurement.
8	Statement of Work (SOW) - Specify the type of suppliers, products, training, documentation and support required from external of the Project and support required from outside of the project.
9	Request for Information (RFI) - A document issued to a wide potential suppliers to enable them to register an interest in becoming the prefer supplier.
10	Request for Proposal (RFP) - Document set to select group of supplier to submit formal proposals for the supply of goods and service to the project.
11	Supplier Contract - Define contractual deliverables, responsibilities, performance criteria, and pricing to ensure getting the most out of the relationship with the supplier.
12	Tender Register - Enables PM to monitor and control the process of releasing a SOW, RFI, RFP and creating a supplier contract.

Source: Method123.com

4.4.6 Analysis Phase (AP)

The AP involves gathering information from valid sources such as top management, affected employees, external clients and end users to enable building of the new system's conceptual and logical models required to build the extended database (Coronel, Morris, & Rob, 2011). The business analysts would analyze business processes, trends and new products in the market and, document what the new system must do or must not do to satisfy users and continued with the investigation which began during the PP (Shelly & Rosenblatt, 2010). The PM team in carrying out the fact finding processes may use tools and research techniques such as interviews, qualitative or quantitative surveys, document review, observations, and sampling. The expected results are used to build business models, data, process and object models. The expected deliverables for the AP is the system requirement document which provides management and user requirements, costs and benefits as well as outlining alternative development strategies (Shelly & Rosenblatt, 2010). In addition, it is important that the existing organisational resources are leveraged with the new system solution to help minimise costs (Wickramasinghe & Goldberg, 2005). The key users of the system are identified and the existing resources are used to lower costs for procurement (Wickramasinghe & Goldberg, 2005).

4.4.7 Design Phase (DP)

Generally, in an IT project the DP requires identifying and determining appropriate architecture and reengineering, technology software/hardware network infrastructure aimed to produce a factual report essential for procurement and negotiation processes (Method123., 2014; Wickramasinghe & Goldberg, 2005). In addition, systems security is vital to the success of the new system both short-term and long-term operations which is one of the reasons it is crucial to identify all systems web users including customers and clients (Wickramasinghe & Goldberg, 2005). The purpose of the systems DP is to create a physical model that would address the organisation voids (ITOC). For example, the organisation may need to connect all users of the firm via the internet using a web content management website model (Wickramasinghe & Goldberg, 2005). At this stage, user inputs, outputs and transactional processes are identified and the user interface is designed (Wickramasinghe & Goldberg, 2005). Developers and designers also need to design internal and external controls, including computer based and manual features that guarantee system reliability, usability, operability accuracy, maintainability and security (Wickramasinghe & Goldberg, 2005). In addition, programmers may need to determine application architectural requirements to transform logical design into program modules and codes (Wickramasinghe & Goldberg, 2005). The deliverable for this phase is the system design specification which is presented to the management and users for review and approval (Wickramasinghe & Goldberg, 2005). Moreover, both management and user involvement is critical to avoid misunderstanding about what the new system will do, how it will do it and how much it will cost. This systems specification design report is required for the procurement processes.

4.4.8 Implementation Phase (IP)

In this phase of the PM SDLCPLC model, the new IS is constructed. Whether the developers used a structured analysis or the O'O method, the IP involves creating, testing, documenting and installing the software or a prototype (Gray & Larson, 2003). On the other hand, if the system is purchased as a package system the analysts will need to configure the software and perform any necessary modifications (Gray & Larson, 2003). The key objective of the IP is to deliver a complete functioning and documented IS or a prototype which is ready to execute the final preparations involving converting data to the new system's files, training users, and performing the final transition to the new system (Gray & Larson, 2003).

4.4.9 System Support and Security Phase (SSASP)

The final phase of the PM SDLCPLC is the SSASP in which the IT staff maintain, enhance, and protect the system (Gray & Larson, 2003). For example, maintenance involves changes such as correcting errors and adapting to changes in the environment such as new tax rates, while enhancements involve updating the system by providing new features and benefits (Shelly & Rosenblatt, 2010). One of the key objectives is to maximize returns on the IT investment and ensure security control to safeguard the system from both external and internal threats (Shelly & Rosenblatt, 2010). Moreover, a well-designed system needs to demonstrate security, reliability, maintainability and scalability (e.g. a scalable design can be easily expanded to meet new business requirements and volumes (Shelly & Rosenblatt, 2010).

4.5 PMKAs Processes, Tools and Techniques

4.5.1 Case Study 'SUR Consultant LAN Project'

The SUR consultant is a small IS consulting firm who have been hired to design and install a local area network (LAN) for the Apia Department of Social Welfare. The project team included an analyst and a system developer. The project objective is to design and install a LAN within two months with a budget not to exceed US\$20,000.00 for the Social Welfare Agency. The deliverables include: twenty workstations; a server with dual Pentium processor, two Hewlett-Packard laser jet Si/Si MX printers: Windows NT servers and workstation operating system; four hours of introduction training for client personnel, sixteen hours of training for client network administration, and a full operational LAN system (Gray & Larson, 2003).

A project manager who manages a small single project may be able to plan and schedule project tasks without a formal plan. However, when a project manager is faced with the management of several small projects or a large complex project, a threshold is quickly reached in which the project manager may no longer cope with the details. Some questions arising from this example is: How does a project manager and team initiate, plan, analyse, design, implement, monitor and control, and end a project. What are the potential tools and techniques the PM can employ during each phase of the project? How can the PMKAs processes and disciplines help the project manager manages the project?

4.6 PMI PMBOK 10 PMKAs and Processes

4.6.1 Project Integration Management Knowledge Area (PIMKA)

The PIMKA as depicted in *table 9 below*, coordinates and collaborates the existing organisational systems and resources with the newly designed system (PMI., 2012, 2013). In this stage, it is important to leverage the existing systems and resources with the newly defined system (Weaver, 2007). The PIMKA inputs consist of the results of the initial phase of the project CLC analysis and are carried forward to produce inputs, outputs or deliverables for each process. This involves making trade-offs amongst competing objectives and alternatives to meet or exceed stakeholder needs and expectations (PMI., 2012). Each process interacts and overlaps with each other producing inputs that are transformed to outputs (PMI., 2012). The early stages for developing the project charter served to ensure that all tasks are identified and that participants of the project have an understanding of what is to be done (PMI., 2012).

Table 9. PIMKA and Processes

PMKA & Processes	Inputs	Outputs	Tools & Techniques
PIMKA Project Plan Development	Other planning outputs, Historical information, Organisational policies, Constraints, Assumptions.	Project plan, Supporting detail.	Project planning methodology, Stakeholder skills and knowledge, Project management information system (PMIS), Earned value management.
Project Plan Execution	Project plan, Supporting detail, Organizational policies, Prevention action, Corrective action.	Work results, Change requests,	General management skills Product skills and knowledge Work authorization system Status review meetings PMIS, Organisational procedures
Integrated Change Control	Project Plan, Performance reports, Change requests.	Project plan updates, Corrective Actions, Lessons Learned.	Change control system, Configuration, Management, Performance and measurement, Additional planning, PMIS.

Source PMI PMBOK5 Guideline (2013)

4.6.2 Project Scope Management Knowledge Area (PSMKA)

There are five processes of the PSMKA including: initiation, scope planning, scope definition, scope verifications and scope change control as demonstrated in *table 10 below*. The guidelines are set to ensure that the project included only all the work required to complete it (PMI., 2012). Managing the scope of a project is an important function of a project manager in any sphere of industrial or nonindustrial activity, manufacturing or service environment, private or public enterprise, government or non-government undertaking (Khan, 2006). Thus, effective scope management of a project can ensure successful management of other key PMKAs, including time, cost, and quality (Khan, 2006). At the heart of all project scope components is the work breakdown structure (WBS) in which all components of the scope management interact with each other. A WBS is the hierarchical break down of a project into its smallest manageable constituent elements. The project scope checklist and the PM trade-off matrix are some example of tools that can be used in this phase.

Table 10. PSMKA and Processes

PMKA & Processes	Inputs	Outputs	Tools & Techniques
PSMKA Initiation	Product description; Strategic plan, Project selection criteria, Historical information.	Project charter, Project manager Identified and assigned, Constraints and assumptions.	Project selection methods, Expert judgement.
Scope Planning	Product description, Project charter, Constraints and Assumptions.	Scope statement, Supporting detail, Scope management plan.	Product analysis, Benefit/cost analysis, Alternatives identification, Expert judgement.
Scope Definition	Scope statement, Constraints and Assumptions, Other planning outputs, Historical information.	WBS, Scope statement updates.	WBS; Constraints and Assumptions; Other planned outputs, Historical information.
Scope Verification	Work results, Product documentation, WBS Scope statement, Project plan.	Formal acceptance.	Inspections

Scope Change Control	Performance reports, Change requests, Scope management plan.	Scope changes, Corrective action, Lessons learned, Adjusted baseline.	Scope change control system, Performance measurement, Additional planning.
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Source:PMI PMBOK 5 Guideline (2013)

The SUR Consultant LAN project priority trade-off matrix (Gray & Larson, 2003, pp. 103-104) as shown in *figure 6 below* that because time to market is important, the project manager is instructed to take advantage of every opportunity to reduce completion time at a lower cost, therefore the original parameters for the time is fixed, costs is accepted and performance can be optimised to create value.

	Time	Performance	Cost
Constraint	√		
Enhance		√	
Accept			√

Figure 6. Priority Matrix Trade Off Decision Making Tool

4.6.3 Project Time Management Knowledge Area (PTMKA)

The PTMKA as demonstrated in *table 11 below* described the processes required to ensure timely completion of the project. The processes consist of activity definition, activity sequencing, activity duration estimating, schedule development, and schedule control (PMI., 2012). A key benefit of PTMKA is its capability to provide guidance and direction on how the project schedule can be managed throughout the PLC using the appropriate inputs, outputs tools and techniques (PMI., 2012). For example, the plan schedule management provides a guideline that can help project managers and stakeholders establish policies, procedures, and documentation for planning, developing, managing, executing and controlling the project schedule (PMI., 2012). The results of each process of the PTMKA are documented and are carried through to formulate the procedures, guidelines and deliverables of subsequent phases in which the same processes are repeated till the completion.

Table 11.PTMKA and Processes

PMKA & Processes	Input	Output	Tools & Techniques
PTMKA	WBS; Scope statement,	Activity list, Supporting detail, WBS update.	Decomposition, Templates.

Activity Definition	Historical information, Constraints, Assumptions, Expert judgement.		
Activity Sequencing	Activity list, Product description, Mandatory dependencies, Discretionary dependencies, External dependencies, Milestones.	Project network diagrams, Activity list updates.	Arrow diagramming method (ADM), Conditional diagramming methods. Network templates.
Activity Duration Estimating	Activity List, Constraints, Assumptions, Resource requirements, Resource capabilities, Historical information, Identified risks.	Activity duration estimates, Basis of estimates, Activity list updates.	Expert judgement, Analogous estimating, Quantitatively based durations, Reserve time (contingency).
Schedule Development	Activity duration estimates, Resource requirements, Resource pool description, Calendars Constraints, Assumptions, Leads and lags, Risk management Plan, Activity attributes.	Project schedule; Support detail; Schedule management plan; Resource requirement Plan;	Mathematical analysis; Duration compression; Simulation; Resource levelling heuristics; PTM, Coding structure.
Schedule Control	Project schedule, Performance reports, Change requests, Schedule management plan.	Schedule updates, Corrective action, Lessons learned.	Schedule change control system, Performance measurement, Additional Planning, PTM, Variance analysis.

Source:PMI PMBOK 5 Guildelines (2013)

4.6.4 Workbreakdown Structure

The WBS as demonstrated in *figures 7 and 8 below* aimed to define all elements of the project in a hierarchical framework (Gray & Larson, 2003, p. 106). The project which is the final deliverable is firstly maintained by the WBS, followed by the identification of the major deliverables/systems.

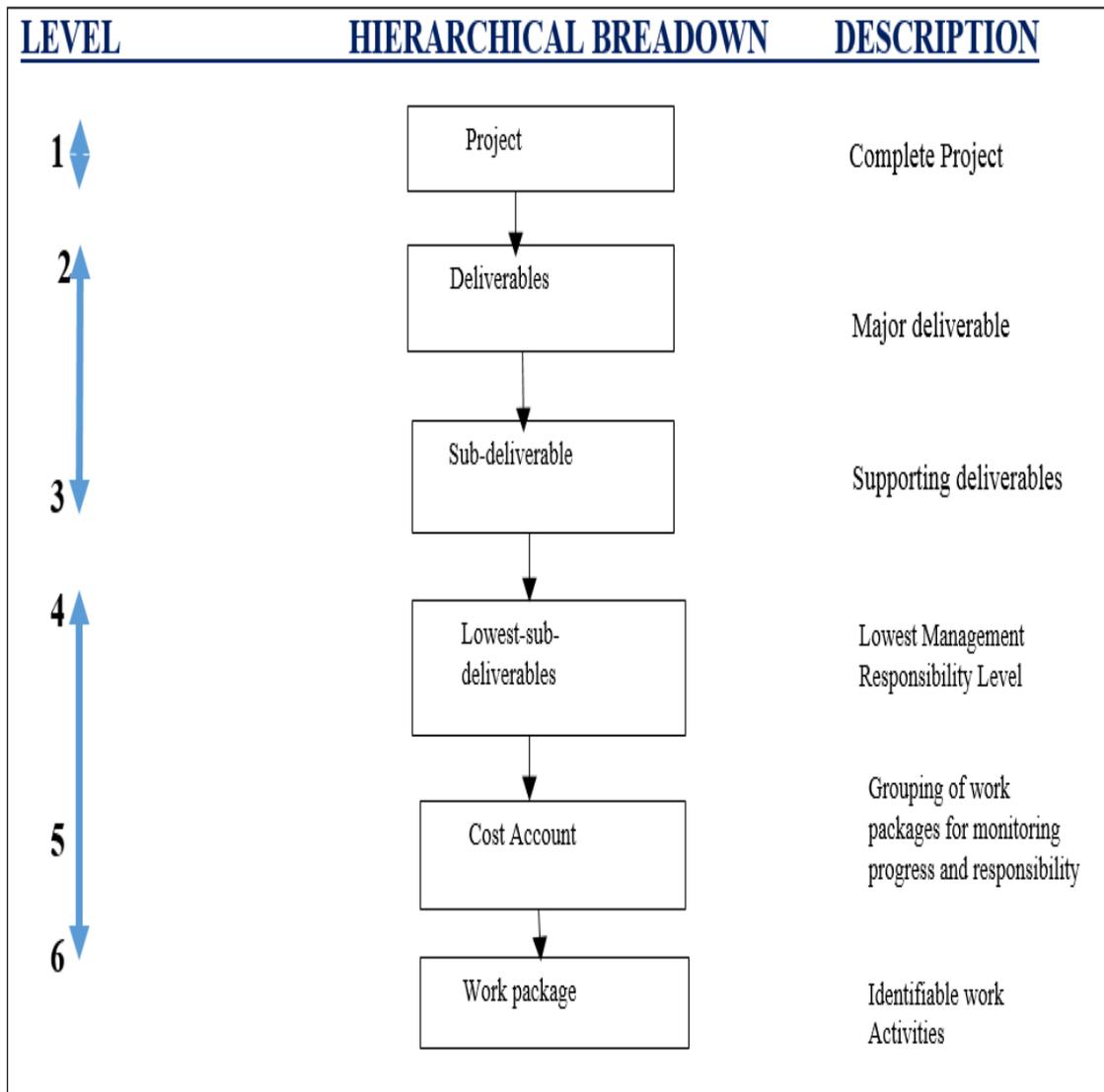


Figure 7. WBS Hierarchical Breakdown Levels
 Source: Gray & Larson (2003)

The major deliverables are decomposed into sub-deliverables and sub-deliverables are further decomposed into lowest sub-deliverables (Gray & Larson, 2003, p. 106). The breakdown processes are repeated until the sub-deliverables' details are small enough to be managed by one person (Gray & Larson, 2003, p. 106). The sub-deliverables are further divided into several work-packages and are grouped by type of work (Gray & Larson, 2003, p. 106). Finally, the groupings within a sub-deliverable are cost accounts which are used to facilitate a system for monitoring project progress by work cost and responsibility (Gray & Larson, 2003, p. 106).

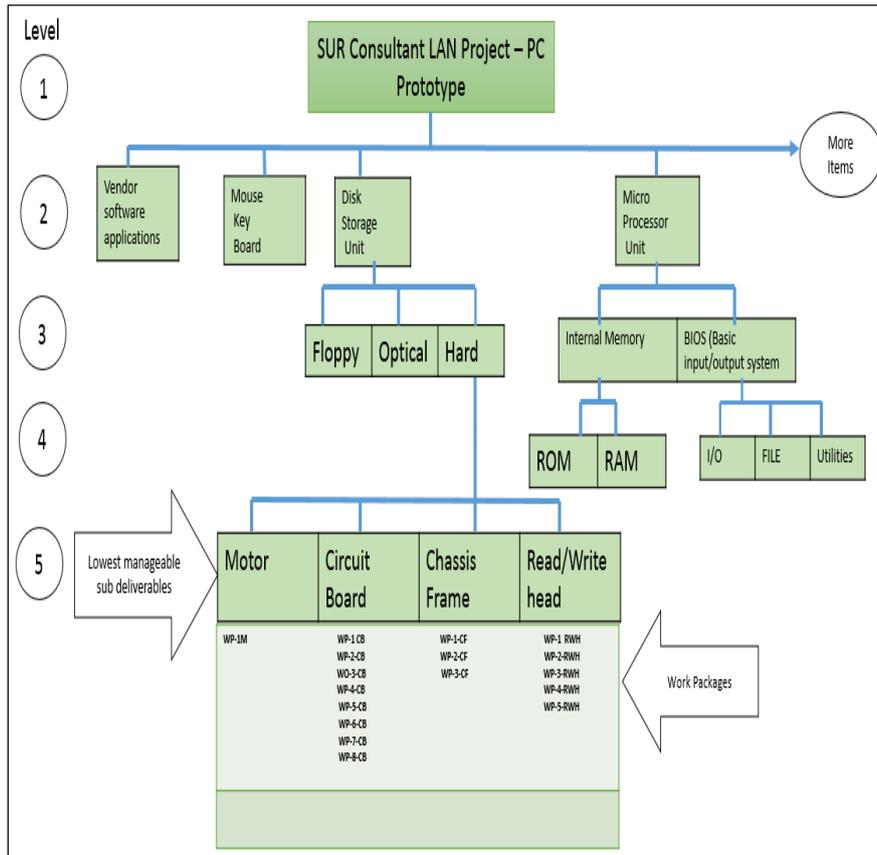


Figure 8. Example of the SUR Consultant Projects WBS
Source: Gray & Larson (2003)

The PMKAs and processes overlap and results of each phase when confirmed and approved by the stakeholders, are carried forward to formulate each knowledge area. Moreover, relevant information of each knowledge area is integrated and coordinated during the initial analysis, planning and designing phases of the projects to formulate the WBS, which is later on leverage with the organisation strategic vision (PMI., 2012).

Examples of some other useful tools that can be employed in this process include, the responsibility matrix, project document templates, and appropriate software. In addition, a project network can also be developed from the WBS (Gray & Larson, 2003, pp. 154-160). Examples of two tools, useful to develop the project network is the ‘activity-on-node’ and the ‘activity-on-arrow’ *see figures 9 and 10 below*. In terms of the activity-on-node an activity is represented by a node (box).

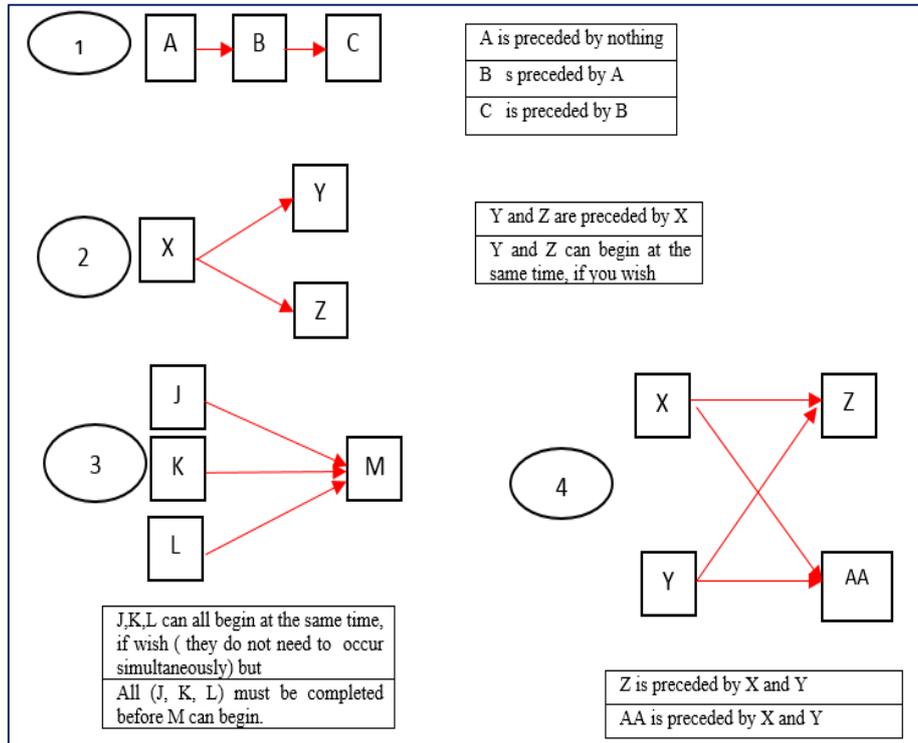


Figure 9. Activity on Node PM Tool
Source: Gray & Larson (2003)

Typically, an activity-on-node diagram usually shows which activities must be completed in order for other activities to commence referred to as “finish-to-start”. Precedence means one activity must be finished before the next one can start (Gray & Larson, 2003, p. 157). In the diagram above, example one shows that activities A and B must be done first before activity C can begin. An activity-on-node diagram can be used to provide a visual representation of the network logic of an entire project schedule.

Contrast, an activity-on-arrow network, activities are represented by a line between two circles. The first circle represents the ‘start of the activity’. The second circle represents the ‘finish of the activity’. A network diagram is created by connecting activities according to their dependency upon each other (Gray & Larson, 2003, pp. 194-195) as illustrated in *figure 10 below*. For example, Y is preceded by X which means that activities 10-11 must be completed before Y 12 can be done.

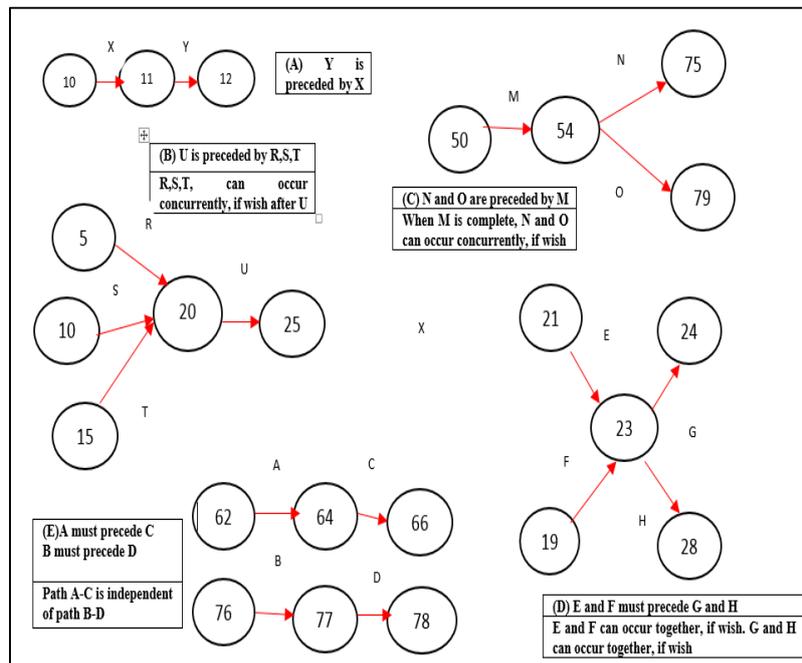


Figure 10. Activity on Arrow PM Tool
Source: Gray & Larson (2003)

Other examples of typical PM tools useful to control processes include the gantt charts (bar charts) commonly refer to as the tracking gantt chart and the control charts which usually serve as a means of tracking and trending schedule performance (Gray & Larson, 2003). These tools are particularly useful for communicating project schedule status especially to top management who may not have time for details (Gray & Larson, 2003). Further, when adding actual and revised time estimates, the gantt chart provides a quick overview of the project status on the report date (Gray & Larson, 2003).

Lafayette (2012) and Meredith and Mantel Jr., (2011) explain that scheduling involved the conversion of a project action plan into an operational timetable, thus scheduling required calculating a date or time to perform an activity, while an activity involves process steps that requires some specific well defined items (inputs) which are transformed into clearly defined set of products (outputs) (Lafayette, 2012).

4.6.5 Project Cost Management Knowledge Area (PCMKA)

The PCMKA as demonstrated in *table 12 below* describes the processes required to ensure that the project is complete within the approved budget. The processes consists of resource planning, cost estimating, cost budgeting and cost control. The PCMKA provides guidance and

direction on how the project costs can be calculated, measured, control and managed throughout the PLC.

Table 12.PMCKA and Processes

PMKA & Processes	Inputs	Outputs	Tools & Techniques
PCMKA Resource Planning	WBS, Historical information, Scope statement, Resource pool description, Organizational policies, Activity duration estimates.	Resource requirement.	Expert judgement, Alternative identification, Project management software.
Cost Estimating	WBS, Resource requirement, Resource rates. Activity duration estimates, Estimating publications, Historical Information, Charts, Accounts, Risks.	Cost estimates, Supporting detail, Cost management plan.	Analogous estimating, Parametric modelling, Bottom-up estimating, Computerized tools, Other cost estimating methods.
Cost Budgeting	Cost estimates, WBS, Project schedule, Risk management plan.	Cost baseline	Cost budgeting tools and techniques.
Cost Control	Cost baseline, Performance reports, Change request. Cost management plan.	Revised cost estimates, Budge updates, Corrective action, Estimates at completion, Project closeout, Lessons learned.	Cost change control system, Performance measurement, Earned value management (EVM), Additional planning, Computerised tools.

Source: PMI PMBOK 5 Guildelines (2013)

4.6.6 Project Quality Management Knowledge Area (PQMKA)

The PQMKA as depicted in *table 13 below* describes the processes required to ensure that the project satisfy the needs for which it has been undertaken (PMI., 2012). The processes consists of quality planning, quality assurance, and quality control. Examples of tools and techniques are also provided to help transform specific inputs into preferred output.

Table 13.PQMKA and Processes

PMKA & Processes	Inputs	Outputs	Tools & Techniques
PQMKA Quality Planning	Quality policy, Scope statement, Product description, Standards and regulations, Other processes outputs.	Quality management plan, Operational definitions, Checklists, Inputs to other processes.	Benefit/cost analysis, Benchmarking, Flow charting, Design of experiments, Cost of quality.
Quality Assurance	Quality management plan, Results of quality control, measurements, Operational definitions.	Quality improvement.	Quality planning, tools and techniques, Quality Audits.
Quality Control	Work results, Quality management plan, Operational definitions, Checklists.	Quality Improvement, Acceptance decisions, Rework, Complete checklists, Process adjustments.	Inspection, Control charts, Pareto diagrams, statistical sampling, Flow charting, Trend analysis.

Source: PMI PMBOK 5 Guidelines (2013)

4.6.7 Project Human Resources Management Knowledge Area (PHRMKA)

The PHRMKA as depicted in table 14 below describes the processes required to make the most effective use of the people involved in the project (PMI., 2012). The processes consists of organizational planning, staff acquisition and team development. Each phase consists of specific inputs which are necessary to achieve the required outputs. Also the tools and techniques for each process are chosen according to the inputs and required outputs (PMI., 2012).

Table 14.PHRMKA and Processes

PMKA &Processes	Inputs	Outputs	Tools & Techniques
PHRMKA Organizational Planning	Project interfaces, Staffing requirements, Constraints.	Assign roles & responsibility, Staffing management plan, Organization chart, Supporting detail.	Templates, HRM resources practices, Organizational theory, Stakeholder analysis.
Staff Acquisition	Staff management plan, Staffing pool description, Recruitment practices.	Project staff assigned, Project team directory.	Negotiations, Pre-assignments, Procurement.

Team Development	Project staff; Project plan, Staffing management plan, Performance reports, External feedback.	Performance improvement, Input to performance appraisals.	Team-building activities, General management, Skills, rewards and recognition systems, Training and education
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Source: PMI PMBOK 5 Guidelines (2013)

4.6.8 Project Communications Management Knowledge Area (PCMKA)

The PCMKA as depicted in *table 15 below* describes the processes required to develop an appropriate approach and plan for the project communications based on stakeholder’s information needs, requirements and available resources (PMI., 2012). The key benefit of PCMKA is that it emphasizes on adopting best means of communication to facilitate interaction between the PMO and the project stakeholders. The inputs and outputs are shown in the *table 15* with the suggested tools and techniques for transformation processes (PMI., 2012).

Table 15.PCMKA and Processes

PMKA & Processes	Inputs	Outputs	Tools & Techniques
PCMKA Communication Planning	Communication requirements, Communication technology, Constraints, Assumptions.	Communication management Plan.	Stakeholder analysis.
Information Distribution	Work results, Communication management plan, Project plan.	Project records, Project reports, Project presentations.	Communication skills, Information retrieval systems, Information distribution methods.
Performing Reporting	Project plan, Work Results, Other project records.	Performing reports, Change requests.	Performance reviews, Variance analysis, Trend analysis, Earned value analysis, Information distribution tools and techniques.
Administrative Closure	Performance measurement, Documentation, Product documentation, Other project reports.	Project archives, Project closure, Lessons learned.	Performance reporting tools and techniques, Project reports, Project closure, Lessons learned.

Source: PMI PMBOK 5 Guidelines (2013)

4.6.9 Project Risk Management Knowledge Area (PRMKA)

The PRMKA as depicted in *table 16 below* provides standard guidelines of processes useful in identifying, analysing and responding to project risks. The group processes consists of risk

management planning, risk identification, qualitative risk analysis, quantitative risk analysis, risk response planning, and risk monitoring and control. Tools and techniques are also shown in the table for conducting and managing transformation processes.

Table 16. PRMKA and Processes

PMKA & Processes	Inputs	Outputs	Tools & Techniques
PRMKA Risk Management Planning	Project charter, Organization's risk management policies, Defined roles and responsibilities, Stakeholder risk tolerances, Templates risk management plan, WBS.	Risk management plan.	Planning meetings.
Risk Identification	Risk management plan, Project planning outputs, Risk categories, Historical information.	Risks, Triggers Inputs to other processes.	Documentations reviews, Information gathering techniques, checklist, Assumptions Analysis, Diagramming techniques.
Qualitative Risk analysis	Risk management plan, Identified risks, Project status, Project type, Data precision, Scales of probability and impact, Assumptions.	Overall risk ranking for project, List of prioritized risks, List of risk for additional analysis, Trends in qualitative risk analysis, Results.	Risk probability and impact, Probability/impact risk rating matrix, Project assumptions testing, Data precision ranking.
Quantitative Risk Analysis	Lists of prioritized risks	Prioritized list of quantified risks, Probabilistic analysis of project, Probability of achieving the cost and time objectives, Trends in quantitative risk analysis results.	Interviewing, Sensitivity analysis, Decision tree analysis, Simulation.
Risk Response Planning	Risk management plan, List of prioritized risks, List rating of the project, Prioritized	Risk response plan, Residual plan, Secondary risks, Contractual agreements,	Avoidance, Transference, Mitigation, Acceptance.

	risk of quantified risks. Probabilistic analysis of project, Probability of achieving the cost and time objectives, List of potential responses, Risk thresholds, Risk owners, Common risk causes, Trends in qualitative and quantitative risk analysis results.	Contingency reserve amounts needed, Inputs to other processes, Inputs to a revised project plan.	
Risk Monitoring and Control	Risk response plan, Project communication, Additional risk identification and Analysis, Scope changes	Workaround plans, Corrective action, Project change requests, Updates to the risk response plan, Risk database, Updates to risk Identification, checklists	Project risk response audits, Periodic project risk reviews, Earned value analysis, Technical performance measurement, Additional risk response planning.

Source: PMI PMBOK 5 Guidelines (2013)

4.6.10 Project Procurement Management Knowledge Area (PPMKA)

The PPMKA describes the processes required to acquire goods and services from outside the performing organization as demonstrated in *table 17 below* (PMI., 2012). The group processes consist of procurement planning, solicitation, source selection, contract administration and contract closeout. Guidelines for inputs, outputs, tools and techniques are also provided.

Table 17.PPMKA and Processes

PMKA & Processes	Inputs	Outputs	Tools & Techniques
PPMKA Procurement Planning	Scope statement, Product description, Procurement resources, Market conditions, Other planning outputs, Constraints, Assumptions.	Procurement management plan, Statement of work.	Make or buy analysis, Expert judgement, Contract type selection.
Solicitation Planning	Procurement management plan, Statement of work, Other planning outputs.	Procurement documents, Evaluation criteria, Statement of work updates.	Standard forms, Expert judgment.

Solicitation	Procurement documents, Qualified seller lists,	Proposal.	Bidder conference, Advertising.
Source Selection	Proposal; Evaluation criteria, Organizational policies.	Contract.	Contract negotiation, weighting system, Screening system, Independent estimates
Contract Administration	Contract, Work results, Change requests, Seller invoice	Correspondence, Contract changes, Payment request.	Contract change, control systems, Performance reporting, Payment system.
Control Closeout	Contract documentation.	Contract file, Formal acceptance and closure.	Procurement audits.

Source: PMI PMBOK 5 Guildelines (2013)

4.6.10.1 Procurement Negotiation

Lafayette (2012) explains that the procurement negotiation usually occurs after the successful vendor project submission or proposal has been selected. The negotiation process involves the buyer and seller meeting to discuss and resolve differences in understanding the statement of work. According to Lafayette (2012), usually the key objective of the negotiation process is to win a contract that both organisations are satisfied with and can execute so that work can be delivered to the project on time. Thus, within the project procurement plan, a records management system (a subset of the project management information system (PMIS) needs to be developed to keep track of the contract baseline, approved contract changes; performance reports, claims and payments. In addition, performance assurance may need to take some form of action especially on larger projects to ensure that the seller performance reports are accurate. Some tools that can be used for performance assurance include:

- a) procurement performance review,
- b) formal review of progress against schedule,
- c) cost and scope baselines involving both seller and buyer personnel who know about the project and has checked that the project work has been done correctly (e.g., inspections/audits formal reviews, essential for compliance of performance against requirement specification) which is sometimes undertaken by a third party acting on behalf of the buyer.

In addition, the seller upon duration of contract may seek for final payment to close the contract which is initiated in the form of a completion certificate. Lafayette (2012) suggests that some options available to the project manager to resolve any remaining procurement issues include:

- a) escalation to the buyer's and seller's management teams to negotiate resolution of the issue; or
- b) seek a resolution through a formal mediation or arbitration process whereby the seller and buyer agree to whatever outcome the mediator deems fair, or as a last resort
- c) seek legal action through the court system.

4.6.11 Project Stakeholder Management Knowledge Area (PSMKA)

The PSMKA as illustrated in *table 18 below* consists of four group processes namely: identify stakeholders, plan stakeholder management, manage stakeholder engagement, and control stakeholder engagement (PMI., 2013). Each of the group process has its own defined inputs and expected outputs. The tools and techniques are also included for each process required to transform inputs to obtain the preferred deliverables (outputs) (PMI., 2013).

Table 18.PSMKA and Processes

PMKA and Processes	Inputs	Outputs	Tools & Techniques
PSMKA Identify Stakeholders	Project Charter, Procurement documents, Enterprise environmental factors, Organisational process assets.	Stakeholder register.	Stakeholder analysis, Expert judgement, Meetings.
Plan Stakeholder Management	Project management plan, Stakeholder register, Enterprise environmental factors, Organization process assets.	Stakeholder management plan, Project documents.	Expert judgment, Meetings, Analytical techniques.
Manage Stakeholder Engagement	Stakeholder management plan,	Issue log; Change requests; PM plan updates; Project document updates;	Communication methods; Interpersonal skills; Management skills.

	Communication management plan, Change log, Organizational process assets.	Organizational process assets updates.	
Control Stakeholder Engagement	PM plan, Issue log, Work performance data, Project documents.	Work performance information, Change requests, PM plans update, Project documents updates, Organizational process assets, Updates.	Information management systems, Expert judgement. Meetings.

Source: PMI PMBOK 5 Guidelines (2013)

4.7 Summary

This chapter explored and discussed in detail the context of IT PM and tools which is the major data source and units of analysis for the research methodology in *chapter 5*. One of the major research question asks: How can the IT PM tools help improve the Samoan traditional project tufugas and e-govt. implementations in future? A PM SDLCPLC model was described in details with some typical PM tools, techniques and applications including the WBS, project schedule, gantt chart, network activity-on-node and activity-on-arrow. The IT projects, particularly e-govt. are complex, thus organisations are encouraged to establish a PMO or hire experienced Project Managers and project teams to oversee and manage implementations. Creating a PMO can lift the burden off top managers and project-based organisations, by allowing experts to conduct its marketing, procurement and negotiations and design relevant IT infrastructures. The choice of the PMBOK and disciplines as one of the data sources in this study stemmed from the idea that WS's traditional knowledge resource repository works hand in hand with the Western knowledge and the English language. The PMBOK guideline demonstrated similarities with the WS traditional way for implementing projects since they both use the OPLC and share similar project attributes. Finally, the PMI PMBOK guideline is the global acceptable PM best practice any project manager from any cultural setting may use according to their situations.

5 Chapter Five – Research Methodology

5.1 Introduction

The exclusion of IT from all forty-five WS e-govt. projects 1998-2015 is one of the major problems that contributed to the failure of the WS-ADB implementations. Moreover, little is known about the emotional grievances of the traditional village stakeholders of the WS e-govt. transformation. The qualitative content analysis mixed method is employed to analyse the WS-ADB project loan documents 1998-2015; Videos of e-govt. projects from 2009-2012; and selected studies from various authors of IT projects CSFs and FFs. Some of the WS e-govt. projects have only recently been recorded on videos and uploaded on to the YouTube website for public viewing. There four major research questions: Are there differences or similarities between the WS traditional projects and e-govt. approach, modern IT projects, and IT PM tools? What are the issues or challenges faced by the WS e-govt. project implementations? What are potential CSFs and FFs influencing the ADB-WS e-govt. projects? How may the PMKAs processes, tools and techniques help improve the Samoan tufuga and the WS e-govt. approach in future?

5.2 Qualitative Content Analysis Mixed Research Method

The qualitative content analysis mixed method is the most suitable research methodology for this study for the following reasons:

- a) The WS e-govt. projects involved complex business phenomenons and a large sample of people and textual data from national and international data sources.
- b) The chosen data sources represent immense amount of data required for the research methodology to answer research questions.
- c) The continuity nature of the projects make the WS government a project-based organization.

Thus, the qualitative content analysis mixed method is the most flexible analytical tool which have the capability to analyse e-govt. projects.

5.2.1 Defining Qualitative Content Analysis

Cavanagh, 1997, as cited by Hsieh and Shannon (2005) states that the qualitative content analysis mixed method is a flexible analytical tool useful for analysing large amounts of textual data. Kondracki and Wellman (2002) as cited by Forman and Damschroder (2008) define text data to include verbal or electronic data which might have been obtained from narrative responses, open-ended survey questions, interviews, focus groups and/or observations; as well as online documents or multi-print media such as articles, books, manuals or reports. Mayring (2014) explains that the qualitative content analysis mixed method involved assignment of categories to text using the qualitative steps, and working through many text passages and analysis of frequencies of categories as a quantitative step. Krippendorff (1989, 2012) defines content analysis as a research technique which enables making replicable and valid inferences from the data to their context (Wimmer & Domnick, 1997). The most obvious sources of data appropriate for content analysis are texts in which meanings are conventionally attributed to verbal discourse, written documents, and visual representations. Krippendorff (2012) argues that anything which occurs in sufficient numbers and has reasonably stable meanings for a specific group of people may be subject to content analysis. Zhang and Wildemuth (2009) define the qualitative content analysis research methodology in three ways:

- i. It is a “research method for the subjective interpretation of the content of text data through a systematic classification process of coding and identifying themes or patterns” (Hsieh & Shannon, 2005, p. 1278).
- ii. It is an “approach of empirical, methodological controlled analysis of texts within their context of communication, following content analytic rules and step by step models, without harsh quantification” (Mayring, 2000, p. 2).
- iii. Any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings (Patton, 2002, p. 453, as cited by Zhang & Wildemuth, 2009).

These three definitions illustrated that the qualitative content analysis method may transcend from merely counting words or extracting objective content from texts, to examining meanings, themes and patterns that may be manifested or latent in a particular text. Further, it allows researchers to understand social reality in a subjective but scientific manner (Zhang & Wildemuth, 2009).

Hsieh and Shannon (2005) argue that the goal of content analysis is to provide knowledge and understanding of the phenomenon being investigated. Moreover, it is a class of method at the intersection of the qualitative and quantitative traditions, which allowed for rigorous exploration of many important but complex issues of interest to management researchers (Duriau, Reger, & Pfarrer, 2007). According to Carley (1993), Morris (1994) and Woodrum (1984) as cited by Duriau et al., (2007), researchers have increasingly used the qualitative methodologies to study complex business phenomenas by borrowing and adapting from more established disciplines such as the content text analysis, while some researchers took advantage of the computer revolution which contributed to the proliferation of qualitative methodologies, especially the content or text analysis approach (Kelle, 1995; Roberts, 1997; Tesch 1991; Weitzmann & Miles, 1995 as cited by Duriau et al., 2007).

5.3 Research Design

The content analysis techniques adopted in this study involved the quantitative frequency count and percentages, as well as the qualitative approach. The study's qualitative content analysis model (Elo & Kyngäs, 2008) is presented in four phases: preparation, organizing, making sense of the data, and reporting as illustrated in *figure 11 below*.

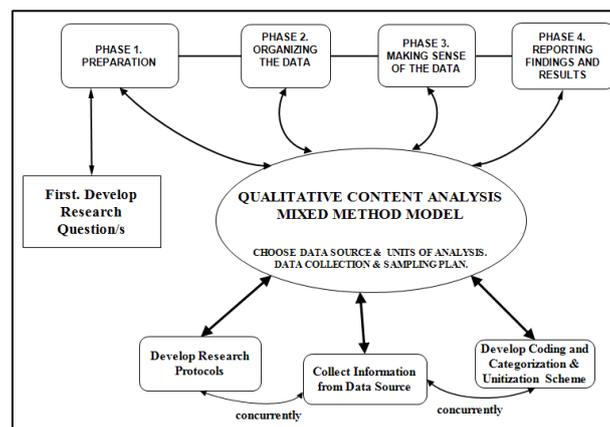


Figure 11. The Study Content Analysis Model

5.4 The Preparation Phase

In this empirical research, the study design starts and flows from the major research questions followed by matching of data sources, determining sampling strategy, data collection methods, and data analysis techniques (Forman & Damschroder, 2008). Thus, it is critical to decide on what to analyse in what detail and determine sampling consideration before selecting the unit/s

of analysis (Elo & Kyngäs, 2008). The units of analysis can be a letter, word, a theme, sentences or questions that contain several meanings, portion of pages or words, the number of participants in discussion or the time used for discussion (Robson, 1993; Polit & Beck, 2004 as cited by Elo & Kyngäs, 2008). The data sources were broken into units for sampling, collecting, analysis and reporting during the early stages of the content analysis (Marsh & White, 2006).

5.4.1 Data Sources

The four data sources for the content analysis are listed in *figure 12 below*: (1) the PMBOK “ten PMKAs processes and disciplines (PMI., 2012, 2013) which are discussed in detail throughout *chapter 4*; (2) the WS-ADB project loan documents which are longitudinal evidences of the WS e-govt. project implementations from 1998-2015; (3) the Samoan e-govt. business videos 2009-2012 downloaded from the YouTube website; and (4) forty-two selected studies from various authors in the field of IT project CSFs and FFs.

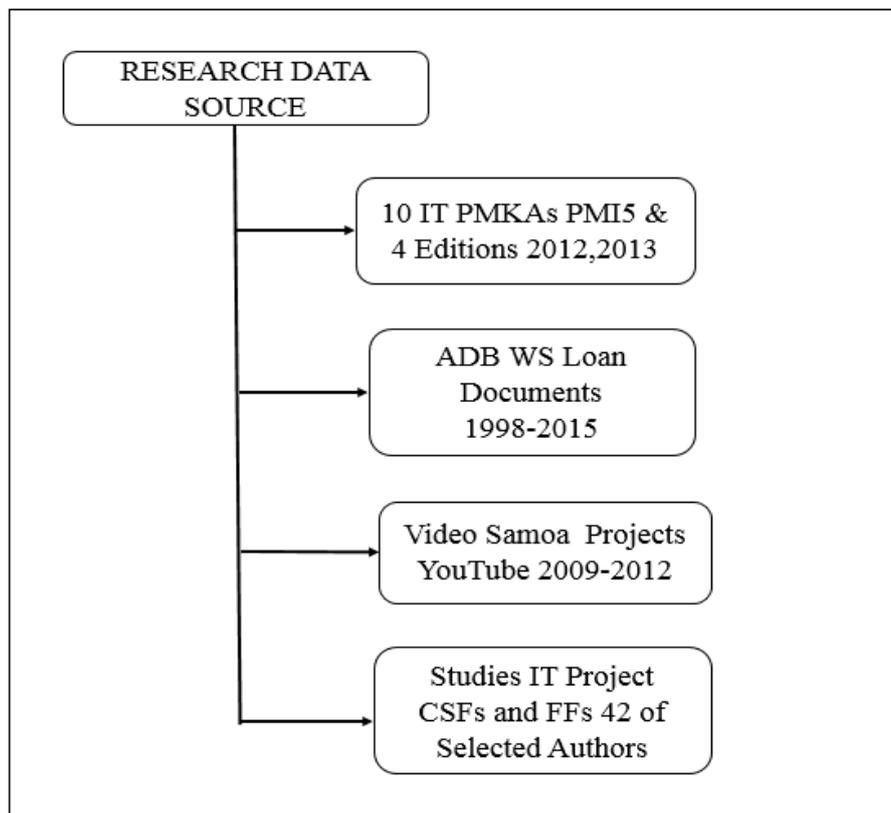


Figure 12. Research Data Source

5.4.2 Data Collection

The study adopts the online document qualitative data collection method (Male, 2011; Mengis, 2007; O'Sheedy, 2012; Tufue, 2010; Zazu, 2008). Research data are collected from various websites including the www.adb.com, www.westernsamoa.govt.com, as well as other online databases. The selected videos were downloaded from the youtube website.

5.4.3 Sampling

The study adopts the purposive sampling method (Male, 2011; Mengis, 2007; O'Sheedy, 2012; Tufue, 2010; Zazu, 2008) which is a non-probability procedure in which the judgment of the researcher was used to select the appropriate textual data making up the sample (Saunders, Lewis, & Thornhill, 2007). The major goal of the purposive sampling method is to understand the phenomenon being investigated.

5.4.4 Sample 1. ADB-WS Project Loan Documents 1998-2015

A total sample of 367 WS-ADB loan documents were obtained from the ADB website as shown in *table 19 below*. Forty-five of these documents are the Samoan major projects listed in *table 20 below*. The rest of the sample are documented records of input and output processes for each of the WS projects based on the requirements of the ADB PLC phases.

Table 19. Sample 1.ADB-WS Loan Documents

No	Sample of ADB-WS Project Loan Documents	Total
1	Samoa Projects	45
2	Project Completion Reports	21
3	Technical Assistance Completion Reports	53
4	Performance Audit Reports	7
5	Validation Reports	2
6	Project Administration Manuals	42
7	ADB Procurement Plans	4
8	President's Recommendation Reports	22
9	Technical Assistance Reports	42
10	Country Partnership Documents	20
11	Design & Monitor Framework documents	15
12	Grants Agreements	13
13	Loan Agreements	1
14	Program Completion Reports	3
15	Project Administration Memorandums	2
16	Project Loan Agreements	7
17	Resettlement Planning Documents	8
18	Special Funds (Japan) Reports	2
19	Fact Sheets (Projects)	58
	Total Sample	367

Source: www.ADB.com

Table 20. List of Major WS Projects 1998-2015

Document Content Analysis - WS Major E-Government Projects 1998-2014					
Year	No	Project Name	Year	No	Project Name
2013-2014	P1	Promoting Economic Use of Customary Land, Phase II	2004-2007	P24	Privatization Support
2013-2014	P2	Promoting Economic Use of Customary Land, Phase III-TA	2004-2007	P25	Strengthening SOE Corporate Governance
2012-2014	P3	Private Sector Development Project	2003-2007	P26	Samoa SchoolNet and Community Access Pilot Project
2012-2014	P4	Samoa AgriBusiness Support Project	2004-2006	P27	Preparing the Education Policy and Strategic Plan 2006-2014
2007-2014	P5	Schoolnet and Community Access Project	2001-2006	P28	Building of Financial and Business Advisory Intermediaries
2013-2013	P6	Public Sector Financial Management Program	2000-2006	P29	Education Sector Project II
2012-2013	P7	Renewable Energy Project	2000-2006	P30	Education Sector Project
2011-2012	P8	Community Sanitation Project	2003-2005	P31	Education Sector Project II
2011-2012	P9	Economic Recovery Support Program - Subprogram 2	2002-2005	P32	Preparing the Savaii Renewable Energy Project
2009-2012	P10	Water Supply, Sanitation and Drainage Project	2002-2005	P33	Develop and Implement Poverty Management Strategy
2008-2012	P11	Preparing the Afulu Environmental Enhancement TA	2000-2005	P34	Education Sector Support
2006-2012	P12	Sanitation and Drainage Project	2002-2004	P35	Planning and Urban Management Agency (PUMA)
2006-2012	P13	Sanitation and Drainage Project	2001-2004	P36	Energy Sector Development
2010-2011	P14	Sanitation and Drainage Project Supplementary Loan	2001-2004	P37	Government's SOE reforms.
2009-2011	P15	Economic Recovery Support Program (Subprogram 1)Loan	1998-2003	P38	Government in the management of the financial sector reform
2006-2011	P16	Preparing the Power Sector Expansion Program	2000-2002	P39	Urban Sector Development
2006-2010	P17	SAM: Samoa Venture capital Fund	1999-2002	P40	Macroeconomic Analysis Govt
2008-2009	P18	Small Business Development	1999-2001	P41	Energy Sector Development
2007-2009	P19	Implementation Strategy-Development for Samoa	1999-2000	P42	Education Sector
2006-2009	P20	Small Business Development	1999-2000	P43	Preparation of Economic Report in Pacific Economy
2005-2009	P21	Implementation of the Public Finance Management Act	1998-2000	P44	Economic and Public Affairs Management
2005-2009	P22	Promoting Economic Use of Customary Land	1998-1998	P45	Water Supply, Sanitation and Drainage Project
2001-2008	P23	Afulu Hydropower Project			
Total WS IT E-Government projects = 45.					

Source: www.adb.com

5.4.5 Sample 2. Videos WS e-Govt. Projects 2009-2012

Sample 2 contained 21 videos downloaded from the youtube website. The videos as listed in *table 21 below* not only provided evidences of mechanisms and attributes of the Samoan traditional projects/activities but also WS-egovt. projects.

Table 21. Sample 2.Video WS e-Projects 2009-2012

No	Year	Name of Video	Author	Category
1	2013	The Return of the Giant Clam Samoa	FAO	Non-Profit and Activism
2	2012	Water Management in Samoa (Masters Final Project).	The IWCWaterChannel	Water Management
3	2012	WIBDI Coconut Oil Production	BodyShopGreece	Business Marketing
4	2012	WIBDI Virgin Coconut Oil in Samoa	WIBDI Samoa	Women in Business
5	2012	WIBDI Organic Farming in Samoa	WIBDI	Small Business in WS
6	2012	Ray Mears' World Of Survival S01E04 - Savaii, Western Samoa	Mears, Ray	Education
7	2012	Rebuilding Samoa - Salani Surf Resort	WashDistribution	SME - Socioeconomic
8	2012	A New Day in Samoa (1959) (AAPG W3236/45 & 46)	Archivesnz	Education
9	2012	Samoa (1949). W3471_16BW326.mp4	Archivesnz	Education
10	2012	ASB-The Samoan	Pasefikacommunication	Non-Profit Activism
11	2011	Roadside Produce Markets	Scott, Shannon	Business Entrepreneurs
12	2011	Samoa Education	ADB	Education
13	2011	Tofiga o Pili A'au - Community Based Climate Change Adaptation	sgpsamoa	Science and Technology
14	2011	Changing the world one banana at a time	Ward, Gerald	Women in Business
15	2010	Samoa One Year on Pt.1	Wheeldon, P.	Travel and Events
16	2010	Apia Fresh Produce Markets, Samoa (1080HD)	Pleasetakemeto.Youtube	Family Traditional Trading
17	2010	Samoa Clam Intro	Hesling, Gerald	Science and Technology
18	2009	Samoa Micro Entrepreneurs	MicroDreamsDotOrg	Non-Profit and Activism
19	2009 Mar 31	SPBD Samoa Micro Finance	MicroDreamsDotOrg	Small Business
20	2009 Aug 19	SPBD in Action	MicroDreamsDotOrg	People and Blogs
21	2009	Cousin's House in Auala Savai'i	Pouth274	Micro Business Development

www.YouTube.com

The selected videos were matched against current IT PMKAs and the PLC processes, attributes and applications, and the WS-ADB loan documents 1998-2015. Each video is categorized under specific themes.

5.4.6 Sample 3. IT Projects CSFs and FFs

Sample 3 consists of IT projects CSFs and FFs collected from 42 studies of selected authors gathered from various online databases *see table 22 below*. From the 42 studies 276 CSFs and 123 FFs textual data were collected totalling to 399 texts. In addition, a total of 42 CSFs and FFs yielded from the results of RCA and RCB content analysis increased the total number of textual data to 441. (The WS-ADB project loan documents sample is 367 plus the sample of 21 WS-video projects increased the total research sample to 829 representing the total population *see figure 13 below*).

Table 22. Sample 3. 42 Studies by Selected Authors

No	Author and Year	Research Focus
1	Wickramasinghe, N., & Goldberg, S. (2005).	A framework for delivering m-health excellence.
2	Blindenbach-Driessen, F., & Van Den Ende, J. (2006).	Innovation in project-based firms: The context dependency of success factors.
3	Cameron, J. (2005).	Ten concepts for an e-Business collaborative project management framework.
4	Phan, D.D (2008).	Critical factors that affect the success of business intelligence systems.
5	Nah, F. H., & Delgado, S. (2006).	Critical success factors for enterprise resource planning implementation and upgrade.
6	Nah, F.H., Lee-Shang Lau, J., & Kuang, J. (2001).	Critical factors for successful implementation of enterprise systems.
7	Hanafizadeh, P., Gholami, R., Dadbin, S., & Standage, N. (2012).	Core critical success factors in implementation of enterprise resource planning systems.
8	Aggarwal, H. (2010).	Critical Success Factors in IT Alignment in Public Sector Petroleum Industry of India.
9	Lee, D. H. D. (2005, January).	Contextual IT Business Value and Barriers: an E-Government and E-Business Perspective.
10	Kelegai, L. K., & Middleton, M. R. (2004).	Factors influencing information systems success in Papua New Guinea organisation.
11	Ab Talib, M. S., & Abdul Hamid, A. B. (2014).	Application of Critical Success Factors in Supply Chain Management.
12	Sangar, A. B., & Iahad, N. B. A. (2013).	Critical factors that affect the success of business intelligence systems.
13	Pinto, J. K., & Mantel Jr, S. J. (1990).	The causes of project failure. Engineering Management.
14	Aziz, N. M., & Salleh, H. (2013).	Human CSFs in IT in Malaysian Construction Industry.
15	Xu, H., & Hwang, M. I. (2007).	Effects of implementation factors on data warehousing succes.
16	Xue, Y., Liang, H., Boulton, W. R., & Snyder, C. A. (2005).	ERP implementation failures in China.
17	Ngai, E. W. T., Cheng, T. C. E., & Ho, S. S. M. (2004).	Critical success factors for web-based supply-chain management systems.
18	Gardner, S., & Ash, C. G. (2003).	ICT-enabled organisations: a model for change management in Logistics Information Management.
19	Miskon, S., Bandara, W., Gable, G. G., & Fiehl, E. (2012).	Success Factors for ICT Shared Services in the Higher Education Sector.
20	Love, P. E., Irani, Z., Standing, C., Lin, C., & Burn, J. M. (2005).	The enigma of evaluation: benefits, costs and risks of IT in Australian SMEs.
21	Standing, C., Guilfoyle, A., Lin, C., & Love, P. E. (2006).	Attribution of success and failure in IT projects. Industrial Management & Data System.
22	Chua, A., & Lam, W. (2005).	Why Knowledge Management projects fail: a multi-case analysis.
23	Almajed, A., & Mayhew, P. (2013).	Perceptions of It Projects Success Factors in Saudi Arabian Public Organizations.
24	Kappelman, L. A., McKeeman, R., & Zhang, L. (2006).	Early warning signs of IT project failure: The dominant dozen.
25	Keil, M., Cule, P. E., Lyytinen, K., & Schmidt, R. C. (1998).	A framework for identifying software project risks.
26	Nikakhtar, N', & Jianzheng, Y. (2012).	Model in a Decision System Support (DSS) for evaluation of risk in Electronic Commerce.
27	Stevens, K., & Fowell, S. (2003).	Perspectives on E-Business Software Project Risk.
28	Vikas Manchanda (2005).	Human factors which contribute to project success and failure.
29	Mesnita, G., & Vasilica, T. (2003).	The Unseen Face of E-Business Project Development.
30	Yeo, K. T. (2002).	Critical failure factors in information system projects.
31	Lou, E. C. W., & Alshawi, M. (2009).	Critical success factors for e-tendering implementation in construction companies.
32	Dubelaar, C., Sohal, A., & Savic, V. (2005).	Benefits, impediments and critical success factors in B2C E-business adoption.
33	Shehu, Z., & Akintoye, A. (2010).	Practice of programme management in the construction environment.
34	Li, J., & Huang, J. (2004).	An exploratory study of e-business success factors.
35	Kumaraswamy, M. M. (2007).	Critical success factors for construction ICT project.
36	WS E-Government Projects	e-government CSF and FFS 2014-2015.
37	WS E-Government Ebusiness Projects	e-government CSF and FFS 2014-2015.
38	WS E-Government Public and Private Services	e-government CSF and FFS 2014-2015.
39	WS E-Government Entrepreneur and small business	e-government CSF and FFS 2014-2015.
40	WS-E-Government small businesses	e-government CSF and FFS 2014-2015.
41	Asian Development Bank Samoa Projects	e-government CSF and FFS 2014-2015.
42	Western Samoa Development Bank Business	e-government CSF and FFS 2014-2015.

5.5 Organizing the Data

5.5.1 Categorization and Coding

The next step involved categorization and coding of the research sample. Firstly, the total sample was sorted, categorized and coded under three different content analysis research components including, RCA. ADB-WS e-govt. projects; RCB.Video WS e-govt. projects and RCC. IT projects CSFs and FFs as illustrated in *figure 13 below*.

Research Components	Sample Categories	Code	Total Sample
RCA	ADB-WS e-govt. Project Documents	RCA-ADB-WS <u>Proj Doc</u>	367
RCB	Videos- WS e-govt. projects	RCB-Videos <u>WS-Proj.</u>	21
RCC	CSF and FFs (42 selected studies)	<u>RCC-CSFs&FFs</u>	441
			829

Figure 13. Data Sample Categories and Codes

5.6 Making Sense of the Data

5.6.1 Research Protocols

The PMBOK ten PMKAs processes and disciplines (PMI., 2012, 2013) were adopted by this study to develop the three sets of Research Protocols as demonstrated in *figures 14, 15 & 16 below: Protocol I, RCA Form1.Information Collection (F1.IC): Protocol II.RCB Form 2, Information Collection (F2.IC) and Protocol III, RCC. 6X6 Matrix*. The collected information for each of the three RCs were content analyzed using *Protocols I, II & III* in order to answer major research questions. In this study ‘protocols’ are used to maintain standardised research rules and procedures that are necessary to manage the analysis processes, help minimise potential biasness and maintain research validation and trustworthiness (Elo et al., 2014).

5.6.2 F1.IC. Protocol I. RCA

Figure 14 F1.IC Protocol I RCA. was designed to content analyse Sample 1 which is the WS-ADB e-govt. projects 1998-2015. The purpose of *F1.IC Protocol I*. is to set up questions in order to identify specific messages which are broken-down into units of analysis. As demonstrated in *Protocols I, & II* the coding, categorization and unitization schemes, were developed to categorize and code each question and answers which were further broken down in to smaller units of analysis that were used as objects for reporting results of the analysis.

Protocol I consists of 36 questions aimed to explore and identify the IT PM practices employed by both the ADB and the WS context. Section 1 contained 5 questions aimed to collect general information about each project. Section 2 consists of 14 questions aimed to collect information about the ADB and WS e-govt. projects' implementations, processes and applications. In section 3, there are 15 questions, aimed to gather information from each of the five phases of the ADB PLC and match them to the WS portion of the projects. The 2 questions in Section 4, were designed to identify major CSFs or FFs influencing the WS-ADB project implementations. Furthermore, the units of analysis are the basis for reporting analyses. In Protocols I, II, and III, the units of analysis are natural occurring vehicles that are identifiable based on the questions. Similar, to the codes and sub codes, categories and subcategories were decomposed into units according to the form and content of each question (Marsh & White, 2006). *Also see Appendices: 10.3.Table 2.RCA Analysis ADB WS E-govt. Projects; 10.4.Table 3.RCA Analysis ADB WS E-govt. Projects; 10.5.Table 4. RCA. Analysis. Project Data Sheets; 10.6.Table 5.RCA. Analysis WS-ADB Data Sheets.*

PROTOCOL I. RCA. SAMPLE 1.
FORM 1. INFORMATION COLLECTION (F1.IC)
E-GOVT. WS-ADB PROJECT DOCUMENTS

This collection of information is estimated to average 4.25 hours per day for 40 days, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. This information is required for the purpose of my master thesis. The data source included WS 367 e-govt. project documents 1998-2015 collected from the ADB website, the PMI 2012, 2013, PMKAs and group processes, as well as the O-PLC phases in combination with the iterative SDLC phases. Type of project included: e-govt. and IT business. The purpose of the F1.IC is to set up questions and answers in order to identify specific messages. Coding, categorization and unitization scheme were developed by the author concurrently during formulation of questions. PDS contained summary information of each project. Other information were gathered from the ADB website, PMI PMBOK guideline, ADB PLC and supporting documents listed under the data source section of chapter five of this thesis.

KEY	Description	Key	Description
C	Codes (Serial Numbers C1 to C27)	PDS	Project Data Sheet
SC	Sub Codes	PAM	Project Administration Manual
CAT	Category (Serial Numbers CAT1 to CAT27)	ADB	Asian Development Bank
SCAT	Sub category	PLC	Project Life Cycle
DS	Data Source		
UOA	Units of Analysis		

Section 1. E-Government General Information

- 1. SC1. SCAT1. Complete the following**
 - 1.0. SC1.0. Name of Form
 - 1.1. SC1.1. Name of e-govt. project
 - 1.2. SC1.2 Category
 - 1.3. SC1.3. Author
- 2. C2. CAT2. Project Initiation**
 - 2.0. SC2.0. SCAT2.0.PDS creation date

- 2.1. SC2.1. SCAT2.1.PDS Updated as of
- 2.2. SC2.2.SCAT2.2.Project name
- 2.3. SC2.3.SCAT2.3.Country
- 2.4. SC2.4.SCAT2.4. Project number
- 2.5. SC2.5.SCAT2.5. Status
- 2.6. SC2.6.SCAT2.6. Geographical location
- 2.7. SC2.7.SCAT2.7.Sector
- 2.8. SC2.8.SCAT2.8.Sub sector
- 2.9. SC2.9.SCAT2.9.Strategic agendas
- 2.10. C2.10.SCAT2.10.Drivers of change

3. C3. CAT3. FINANCE (See ADB). Tick to check

- 3.0. SC3.0. SCAT3.0.Type of assistance
- 3.1. SC3.1. SCAT3.1.Approval number
- 3.2. SC3.2. SCAT3.2.Source of funding

4. C4. CAT4. SAFE GUARD CATEGORIES

- 4.0. SC4.0. SCAT4.0. Environment
- 4.1. SC4.2. SCAT4.2.Involuntary resettlement
- 4.2. SC4.3. SCAT4.3.Indigenous

5. C5. CAT5. SUMMARY OF ENVIRONMENTAL AND SOCIAL ISSUES

- 5.0. SC5.0. SCAT5.0. Environmental aspects.
- 5.1. SC5.1. SCAT5.1.Involuntary resettlements
- 5.2. SC5.2.SCAT5.2. Indigenous people

SECTION 2.

C6. CAT6. E-government Project Information

6. SC6.1. SCAT6.1. Who initiates the WS e-govt. project?

SC	Textual Data - UOA	SCAT	Documents
SC6.1.1		SCAT6.1.1	
SC6.1.2		SCAT6.1.2	
SC6.1.3		SCAT6.1.3	
SC6.1.4		SCAT6.1.4	
SC6.1.5		SCAT6.1.5	

7. C7. CAT7. Who are the local project stakeholders?

SC	Textual data - UOA	SCAT	Documents
SC7.1		SCAT7.1	PAM
SC7.2		SCAT7.2	
SC7.3		SCAT7.3	
SC7.4		SCAT7.4	
SC7.5		SCAT7.5	
SC7.6		SCAT7.6	

8. C8. CAT8. Who is the PMO?

SC	Textual Data - UOA	SCAT	Document
SC8.1		SCAT8.1	PAM

9. C9. SCAT9. Who is the primary project owner?

SC	Textual Data-UOA	SCAT	Document
SC9.1		SCAT9.1	PDS

10. C10.CAT10. Type of Project.

SC	Textual Data - UOA	SCAT	Document
SC10.1		SCAT10.1	
SC10.2		SCAT10.2	
SC10.3		SCAT10.3	
SC10.4		SCAT10.4	
SC10.5		SCAT10.5	
SC10.6		SCAT10.6	
SC10.7		SCAT10.7	

11. SC11. SCAT11. Identify the PLC being employed.

SC	Textual Data - UOA	SCAT	Document
SC11.2		SCAT11.2	
SC11.3		SCAT11.3	

12. C12.CAT12.What are the five phases of the ADB PLC.

SC	Textual Data-UOA	SCAT	Document
SC12.1		SCAT12.1	
SC12.2		SCAT12.2	
SC12.3		SCAT12.3	
SC12.4		SCAT12.4	
SC12.5		SCAT12.5	

13. C13. CAT13. What are the five phases of the PMI PLC?

SC	Textual Data - UOA	SCAT	Documents
SC13.1		SC13.1	
SC13.2		SC13.2	
SC13.3		SC13.3	
SC13.4		SC13.4	
SC13.5		SC13.5	

14. C14. CAT14. What are the potential differences between PMI PLC and ADB PLC?

SC	PMI PLC – Textual Data UOA	SCAT	SC	ADB PLC – Textual Data UOA	SCAT	Document
SC14.1		SCAT14.1	SC14.8		SCAT14.8	PMBOK PMI 2014/2013
SC14.2		SCAT14.2	SC14.9		SCAT14.9	ADB SITE
SC14.3		SCAT14.3	SC14.10		SCAT14.10	
SC14.4		SCAT14.4	SC14.11		SCAT14.11	
SC14.5		SCAT14.5	SC14.12		SCAT14.12	
SC14.6		SCAT14.6	SC14.13		SCAT14.13	
SC14.6		SCAT14.7	SC14.14		SCAT14.14	

15. C15. CAT15. Identify Systems Development Methodology.

SC	Textual data PMI PLC – UOA	SCAT	SC	Textual Data-ADB PLC - UOA	SCAT	Document
SC15.1		SCAT15.1	SC15.7		SCAT15.7	ADB SITE
SC15.2		SCAT15.2	SC15.8		SCAT15.8	ADB PLC
SC15.3		SCAT15.3	SC15.9		SCAT15.9	PMBOK
SC15.4		SCAT15.4	SC15.10		SCAT15.10	
SC15.5		SCAT15.5	SC15.11		SCAT15.11	
SC15.6		SCAT15.6	SC15.12		SCAT15.12	
			SC15.13		SCAT15.13	

16. C16. CAT16. Identify key stakeholders? ADB Project

SC	Textual Data - UOA	SCAT	Document
SC16.1		SCAT16.1	WS DS
SC16.2		SCAT16.2	ADB site
SC16.3		SCAT16.3	PDS/PAM
SC16.4		SCAT16.4	PDS/PAM
SC16.5		SCAT16.5	PDS/PAM
SC16.6		SCAT16.6	PDS/PAM

17. C17. CAT17. Identify key communication modes.

SC	Textual Data - UOA	SCAT	Document
SC17.1		SCAT17.1	ADB
SC17.2		SCAT17.2	ADB
SC17.3		SCAT17.3	ADB
SC17.4		SCAT17.4	ADB
SC17.5		SCAT17.5	ADB
SC17.6		SCAT17.6	

18. C18.CAT18. Who is the PM and Team/PMO.

SC	Textual Data - UOA	SCAT	Document
C18.1		SCAT18.1	ADB
C18.2		SCAT18.2	ADB

C18.3		SCAT18.3	ADB
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19. C19. CAT19. Identify indicators of PMKAs?

SC	Textual data - UOA	SCAT	Document
SC19.1		SCAT19.1	ADB SITE
SC19.2		SCAT19.2	PDS
SC19.3		SCAT19.3	PDS
SC19.4		SCAT19.4	ADB PLC
SC19.5		SCAT19.5	ADB PLC
SC19.6		SCAT19.6	WS BP
SC19.7		SCAT19.7	PDS
SC19.8		SCAT19.8	

SECTION 3. ADB PLC

C20. SCAT20. ADB PLC Phase 1 - Country Partnership Strategy

20.1. SC20.1. SCAT20.1. ADB PLC Phase I. Describe the Country Partnership Strategy (CPS)

SC	Textual data - UOA	SCAT	Document
SC20.1.1		SCAT20.1.1	ADB SITE
SC20.1.2		SCAT20.1.2	ADB PLC
SC20.1.3		SCAT42.1.3	ADB PLC
SC20.1.4		SCAT20.1.4	ADB PLC
SC20.1.5		SCAT20.1.5	ADB PLC
SC20.1.6		SCAT20.1.6	ADB PLC
SC20.1.7		SCAT20.1.7	ADB PLC

20.2. SC20.2. SCAT20.2. ADB PLC Phase 1. What are the inputs and outputs?

SC	Textual Data - UOA	SCAT	Document
SC20.2.1		SCAT20.2.1	WS DOC
SC20.2.2		SCAT20.2.2	WS DOC
SC20.2.3		SCAT20.2.3	ADB PLC
SC20.2.4		SCAT20.2.4	ADB PLC
SC20.2.5		SCAT20.2.5	ADB PLC
SC20.2.6		SCAT20.2.6	VIDEOS
SC20.2.7		SCAT20.2.7	ADB

20.3. SC20.3. SCAT20.3. ADB PLC Phase 1. List the tools or techniques used in this phase.

SC	Textual - UOA	SCAT	Document
SC20.3.1		SCAT20.3.1	ADB PLC
SC20.3.2		SCAT20.3.2	VIDEOS
SC20.3.3		SCAT20.3.3	PDS/PAM
SC20.3.4		SCAT20.3.4	ADB PLC
SC20.3.5		SCAT20.3.5	
SC20.3.6		SCAT20.3.6	
SC20.3.7		SCAT20.3.7	

20.4. C21. SCAT21.ADBPLC Phase 2. Preparation (Design)

20.5. SC21.1. SCAT21.1. ADB PLC Phase 2. Describe the Preparation Phase

SC	Textual Data - UOA	SCAT	Document
SC21.1.1		SCAT21.1.1	PLC
SC21.1.2		SCAT21.1.2	PDS/PAM
SC21.1.3		SCAT21.1.3	PDS/PAM
SC21.1.4		SCAT21.1.4	PDS/PAM
SC21.1.5		SCAT21.1.5	PDS/PAM
SC21.1.6		SCAT21.1.6	PDS/PAM
SC21.1.7		SCAT21.1.7	PLC

20.6. SC21.2. SCAT21.2. ADB PLC. Phase 2. What are the inputs and outputs?

SC	Textual - UOA	SCAT	Document
SC21.2.1		SCAT21.2.1	ADB PLC
SC21.2.2		SCAT21.2.2	PDS/PAM
SC21.2.3		SCAT21.2.3	ADB PLC
SC21.2.4		SCAT21.2.4	ADB PLC
SC21.2.5		SCAT21.2.5	
SC21.2.6		SCAT21.2.6	
SC21.2.7		SCAT21.2.7	

20.7. SC21.3. SCAT21.3. ADB Phase 2. List the tools or techniques used in this phase.

SC	Textual - UOA	SCAT	Document
SC21.3.1		SCAT21.3.1	ADB PLC
SC21.3.2		SCAT21.3.2	ADB PLC
SC21.3.3		SCAT21.3.3	ADB PLC
SC21.3.4		SCAT21.3.4	PDS/PAM
SC21.3.5		SCAT21.3.5	PDS/PAM
SC21.3.6		SCAT21.3.6	
SC21.3.7		SCAT21.3.7	

20.8. C22. ADB PLC Phase 3. ADB PLC – Loan Approval?

20.9. SC22.1. SCAT22.1. ADB PLC Phase 3. Describe the Loan Approval Phase

SC	Textual Data - UOA	SCAT	Document
SC22.1.1		SCAT22.1.1	PDS/PAM
SC22.1.2		SCAT22.1.2	PDS/PAM
SC22.1.3		SCAT22.1.3	PDS/PAM
SC22.1.4		SCAT22.1.4	PDS/PAM
SC22.1.5		SCAT22.1.5	PDS/PAM
SC22.1.6		SCAT22.1.6	PDS/PAM
SC22.1.7		SCAT22.1.7	PDS/PAM

20.10. SC22.2. SCAT22.2. ADB PLC Phase 3. What are the inputs and outputs?

SC	Textual - UOA	SCAT	Document
SC22.2.1		SCAT22.2.1	PDS/PAM
SC22.2.2		SCAT22.2.2	PDS/PAM
SC22.2.3		SCAT22.2.3	PDS/PAM
SC22.2.4		SCAT22.2.4	PDS/PAM
SC22.2.5		SCAT22.2.5	ADB PLC
SC22.2.6		SCAT22.2.6	ADB PLC
SC22.2.7		SCAT22.2.7	ADB PLC

20.11. SC22.3. SCAT22.3. ADB PLC Phase 3. List the tools and techniques used in this phase.

SC	Textual - UOA	SCAT	Document
SC22.3.1		SCAT22.3.1	
SC22.3.2		SCAT22.3.2	
SC22.3.3		SCAT22.3.3	
SC22.3.4		SCAT22.3.4	
SC22.3.5		SCAT22.3.5	
SC22.3.6		SCAT22.3.6	
SC22.3.7		SCAT22.3.7	

20.12. C23. CAT23. ADB PLC Phase 4. Implementation

20.13. C23.1. SCAT23.1. ADB PLC Phase 4. Describe the Implementation Phase.

SC	Textual Data - UOA	SCAT	Document
SC23.1.1		SCAT23.1.1	PAM
SC23.1.2		SCAT23.1.2	PAM
SC23.1.3		SCAT23.1.3	PAM
SC23.1.4		SCAT23.1.4	PAM
SC23.1.5		SCAT23.1.5	
SC23.1.6		SCAT23.1.6	
SC23.1.7		SCAT23.1.7	

20.14. SC23.2. SCAT23.2. ADB PLC Phase 4. What are the inputs and outputs?

SC	Textual - UOA	SCAT	Document
SC23.2.1		SCAT23.2.1	
SC23.2.2		SCAT23.2.2	
SC23.2.3		SCAT23.2.3	
SC23.2.4		SCAT23.2.4	
SC23.2.5		SCAT23.2.5	
SC23.2.6		SCAT23.2.6	
SC23.2.7		SCAT23.2.7	

20.15. SC23.3. SCAT23.3. ADB PLC Phase 4. List tools and techniques used in this phase.

SC	Textual - UOA	SCAT	Document
SC23.3.1		SCAT23.3.1	
SC23.3.2		SCAT23.3.2	
SC23.3.3		SCAT23.3.3	
SC23.3.4		SCAT23.3.4	
SC23.3.5		SCAT23.3.5	

SC23.3.6		SCAT23.3.6	
SC23.3.7		SCAT23.3.7	

20.16. C24. CAT24. ADB PLC Phase 5. Completion and Evaluation

20.17. SC24.1. SCAT21.1. ADB PLC Phase 5. Describe the Completion and Evaluation Phase

SC	Textual Data - UOA	SCAT	Document
SC24.1.1		SCAT24.1.1	
SC24.1.2		SCAT24.1.2	
SC24.1.3		SCAT24.1.3	
SC24.1.4		SCAT24.1.4	
SC24.1.5		SCAT24.1.5	
SC24.1.7		SCAT24.1.6	
SC24.1.8		SCAT24.1.7	

20.18. SC24.2. SCAT24.2. ADB PLC Phase 5. What are the inputs and outputs?

SC	Textual Data - UOA	SCAT	Document
SC24.2.1		SCAT24.2.1	
SC24.2.2		SCAT24.2.2	
SC24.2.3		SCAT24.2.3	
SC24.2.4		SCAT24.2.4	
SC24.2.5		SCAT24.2.5	
SC24.2.6		SCAT24.2.6	
SC24.2.7		SCAT24.2.7	

20.19. SC24.3. SCAT24.3. ADB PLC Phase 5. List the tools or techniques used in this phase.

SC	Textual Data - UOA	SCAT	TIME
SC24.3.1		SCAT24.3.1	
SC24.3.2		SCAT24.3.2	
SC24.3.3		SCAT24.3.3	
SC24.3.4		SCAT24.3.4	
SC24.2.5		SCAT24.3.5	
SC24.2.6		SCAT24.3.6	
SC24.2.7		SCAT24.3.7	

SECTION 4

23. C25.CAT25. Project CSFs and FFs

20.20. C25.1. SCAT25.1.What are the CSFs.

SC	Textual Data - UOA	SCAT	Document
SC25.1.1		SCAT25.1.1	
SC25.1.2		SCAT25.1.2	
SC25.1.3		SCAT25.1.3	
SC25.1.4		SCAT25.1.4	
SC25.1.5		SCAT25.1.5	
SC25.1.6		SCAT25.1.6	
SC25.1.7		SCAT25.1.7	

23.2. SC25.2. SCAT25.2.What are the FFs?

SC	Textual Data - UOA	SCAT	Document
SC25.2.1		SCAT25.2.1	
SC25.2.2		SCAT25.2.2	
SC25.2.3		SCAT25.2.3	
SC25.2.4		SCAT25.2.4	
SC25.2.5		SCAT25.2.5	
SC25.2.6		SCAT25.2.6	
SC25.2.7		SCAT25.2.7	

Figure 14. F1.IC.Protocol I. RCA. ADB-WS Project Loan Documents

5.6.3 F2.IC. Protocol II. RCB.Video WS E-govt. Projects.

The youtube videos of the WS initiatives provided data relevant to the ADB-WS e-govt. projects. There are several challenges influencing these videos. Firstly, the videos were only made available since year 2009-2012 for public viewing. Secondly, issues stem from the WS e-govt. transformation are narrated by the local villagers based on their needs and grievances.

Thirdly, there are also issues involving the exclusion of the IT and citizens from the e-govt. approach. Finally, the development and building of SMEs and the e-service industry, micro-finance and entrepreneurial initiatives to implement e-govt. projects indicated the need for IT and ISs.

Sample 2 consists of 21 videos. Information were gathered by answering each individual question as set out in *F2.IC.Protocol II. RCB* as demonstrated in *figure 15 below*. Section 1 consists of one general question and sub-questions aimed to identify the author, name and category of each video. The 9 questions in Section 2 were developed to explore the traditional Samoan everyday life activity/project processes and attributes of Samoan individuals, families, groups or communities. These questions also served to capture the cultural significance of the projects and how the traditional people perform their roles and responsibilities and coordinate them with other cultural needs to satisfy expectations. Other questions that emerged from the data included: What is a traditional Samoan project? How might a Samoan tufuga initiate, plan, execute, monitor and control, and close a project? Are there differences or similarities between Samoan projects and modern IT projects? To achieve goals and objectives, we also focused on exploring some of the Samoan traditions, habits and customs that were still being employed by project managers and communities in these modern times. Should Samoan project tufugas be concerned about the execution of their projects and why? Further the media analysis involved capturing the language used, symbols, objects and texts that may represent objects and meanings that are significant to the traditional people and demonstrated their understanding of the projects. While the focus is to determine similarities or differences between the WS traditional projects, modern IT projects and IT project management and tools, this study acknowledges the already widely DOIT and the availability of the ubiquities broadband internet throughout the national economy of Samoa seriously impacting the traditional village community's ecosystems and cultural infrastructures.

There are 12 questions in Section 3 which focused on the WS e-govt. project implementation management. Questions involving IT and Project Management are answered in conjunction with *F1.IC.RCA Protocol I*. Finally, section 4 consists of 6 questions which focused on identifying project risks, strengths, weaknesses, potential opportunities and/or threats as well as the CSFs and FFs influencing the project implementations of the Samoan traditional project communities. *Also see Appendices: 10.7.Table 6.RCB. Analysis-Video*

Samoa e-Govt Projects; 10.8.Table 7. RCB. Analysis-CSFs; 10.9.Table 8.RCB. Analysis CSFs/FFs; 10.11.Table 9.RCB. Analysis Video WS e-Govt. Projects.

PROTOCOL II. RCB
FORM 2. INFORMATION COLLECTION (F2.IC)
VIDEOS: WS E-GOVT. PROJECT- CONTENT ANALYSIS

This collection of information is estimated to average 4.25 hours per day for 40 days, including the time for reviewing instructions, searching existing data sources, gathering and maintaining data, and completing and reviewing the collection of information. This information is required for the purpose of my master thesis. 21 Videos were analysed involving WS-e-govt. projects downloaded from the YouTube website were evaluated and questions were formulated to gather information. The 10 PMKAs processes and disciplines data source as well as the OPLC phases in combination with the iterative SDLC waterfall phases were used to design the Protocol II to analyse and test RCB. Leutele Grey 2015.

KEY	Description
C	Code (Serial Numbers C27...)
SC	Sub Code
CAT	Category (Serial Numbers CAT27...)
SCAT	Sub Category
DS	Data Source
UOA	Units of Analysis
SWOT	Strengths, Weaknesses/Risks, Opportunities, Threats

SECTION 1. C27. CAT.27. VIDEO ANALYSIS – WS E-GOVT PROJECT

1. SC27.1. SCAT27.1. General Information. Complete the following.

- 1.0. SC.27.1.2. Name of Video
- 1.1. SC.27.1.3. Author
- 1.2. SC.27.1.4. Name of Project
- 1.3. SC.27.1.5. Category

2. SC27.2. SCAT27.2. What language/s is used in the video?

SC	Object, symbol or words -UOA	SCAT	TIME
SC27.2.1.		SCAT27.2.1	
SC27.2.1.		SCAT27.2.2	

3. SC27.3. SCAT27.3. Which object/s symbol/s or word/s represents technology?

SC	Object, symbol or words - UOA	SCAT	TIME
SC27.3.1.		SCAT27.3.1.	
SC27.3.2.		SCAT27.3.2	
SC27.3.3..		SCAT27.3.3	
SC27.3.4		SCAT27.3.4	
SC27.3.5		SCAT27.3.5	
SC27.3.6		SCAT28.3.6	

4. SC27.4. SCAT27.4. Which object/s, symbol/s or word/s appears to be significant in the video?

SC	Object, symbol or words - UOA	SCAT	TIME
SC27.4.1		SCAT27.4.1	
SC27.4.2		SCAT27.4.2	
SC27.4.3		SCAT27.4.3	
SC27.4.4		SCAT27.4.4	
SC27.4.5		SCAT27.4.5	
SC27.4.6		SCAT27.4.6	
SC27.4.7		SCAT27.4.7	
SC27.4.8		SCAT27.4.8	

5. SC27.5. SCAT27.5. Which object/s symbol/s or word/s represents the traditional way of doing things?

SC	Object, symbol or words - UOA	SCAT	TIME
SC27.5.1		SCAT27.5.1	
SC27.5.2		SCAT27.5.2	
SC27.5.3		SCAT27.5.3	
SC27.5.4		SCAT27.5.4	
SC27.5.5		SCAT27.5.5	
SC27.5.6		SCAT27.5.6	
SC27.5.7		SCAT27.5.7	

6 SC27.6. SCAT27.6. Identify the project processes (Initiate, Plan, Execute, Monitor and Control, End or) e.g. Attributes and mechanisms of a IK (WS traditional project)

SC	Object, symbol or words - UOA	SCAT	TIME
SC27.6.1		SCAT27.6.1	
SC27.6.2		SCAT27.6.2	
SC27.6.3		SCAT27.6.3	
SC27.6.4		SCAT27.6.4	
SC27.6.5		SCAT27.6.5	
SC27.6.6		SCAT27.6.6	
SC27.6.7		SCAT27.6.7	

7. SC27.7. SCAT27.7. Who are the Stakeholders?

SC	Object, symbol or words - UOA	SCAT	TIME
SC27.7.1		SCAT27.7.1	
SC27.7.2		SCAT27.7.2	
SC27.7.3		SCAT27.7.3	
SC27.7.4		SCAT27.7.4	
SC27.7.5		SCAT27.7.5	
SC27.7.6		SCAT27.7.6	
SC27.7.7		SCAT27.7.7	

8. SC.27.8. SCAT27.8.What are the mechanisms of a WS Project?

SC	Object, symbol or words - UOA	SCAT	TIME
SC27.8.1		SCAT27.8.1	
SC27.8.2		SCAT27.8.2	
SC27.8.3		SCAT27.8.3	
SC27.8.4		SCAT27.8.4	
SC27.8.5		SCAT27.8.5	
SC27.8.6		SCAT27.8.6	
SC27.8.7		SCAT27.8.7	

9. SC27.9. SCAT27.9.What are the attributes of a WS traditional activity (Project).

SC	Object, symbol or words - UOA	SCAT	TIME
SC27.9.1		SCAT27.9.1	
SC27.9.2		SCAT27.9.2	
SC27.9.3		SCAT27.9.3	
SC27.9.4		SCAT27.9.4	
SC27.9.5		SCAT27.9.5	
SC27.9.6		SCAT27.9.6	
SC27.9.7		SCAT27.9.7	

10. SECTION 2.

C28. SCAT29. WS E-GOVT - PROJECT MANAGEMENT

10.1 SC28.1. SCAT28.1.What is the Project?

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.1.1		SCAT28.1.1	
SC28.1.2		SCAT28.1.2	
SC28.1.3		SCAT28.1.3	
SC28.1.4		SCAT28.1.4	
SC28.1.5		SCAT28.1.5	
SC28.1.6		SCAT28.1.6	
SC28.1.7		SCAT28.1.7	
SC28.1.8		SCAT28.1.8	

10.2 SC28.2. SCAT28.2. Who are the investors/funders?

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.2.1		SCAT28.2.1	
SC28.2.2		SCAT28.2.2	
SC28.2.3		SCAT28.2.3	
SC28.2.4		SCAT28.2.4	
SC28.2.5		SCAT28.2.5	
SC28.2.6		SCAT28.2.6	

10.3 SC28.3. SCAT28.3. Who initiated the Project?

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.3.1		SCAT28.3.1	
SC28.3.2		SCAT28.3.2	
SC28.3.3		SCAT28.3.3	

SC28.3.4		SCAT25.3.4	
SC28.3.5		SCAT28.3.5	
SC28.3.6		SCAT28.3.6	

10.4 SC28.4. SCAT28.4. Identify the Project Management and Team.

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.4.1		SCAT28.4.1	
SC28.4.2		SCAT28.4.2	
SC28.4.3		SCAT28.4.3	
SC28.4.4		SCAT28.4.4	
SC28.4.5		SCAT28.4.5	
SC28.4.6		SCAT28.4.6	

10.5 SC28.5. SCAT28.5. What PLC is used by the stakeholders?

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.5.1		SCAT28.5.1	
SC28.5.2		SCAT28.5.2	
SC28.5.3		SCAT28.5.3	
SC28.5.4		SCAT28.5.4	
SC28.5.5		SCAT28.5.5	
SC28.5.6		SCAT28.5.6	

10.6 SC28.6. SCAT.28.6.What are the systems requirement?

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.6.1		SCAT28.6.1	
SC28.6.2		SCAT28.6.2	
SC28.6.6		SCAT28.6.3	
SC28.6.4		SCAT28.6.4	
SC28.6.5		SCAT28.6.5	
SC28.6.6		SCAT28.6.6	

10.7 SC28.7. SCAT28.7.What system is used? For example, Information System, ICT etc.

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.7.1		SCAT28.7.1	
SC28.7.2		SCAT28.7.2	
SC28.7.3		SCAT28.7.3	
SC28.7.4		SCAT28.7.4	
SC28.7.5		SCAT28.7.5	
SC28.7.6		SCAT28.7.6	

10.8 SC28.8. SCAT28.8.Who are the users of the system?

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.8.1		SCAT28.8.1	
SC28.8.2		SCAT28.8.2	
SC28.8.3		SCAT28.8.3	
SC28.8.4		SCAT28.8.4	
SC28.8.5		SCAT28.8.5	
SC28.8.6		SCAT28.8.6	

10.9 SC28.9. SCAT28.9.What are the project deliverables? (Refer ADB)

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.9.1		SCAT28.9.1	
SC28.9.2		SCAT28.9.2	
SC28.9.3		SCAT28.9.3	
SC28.9.4		SCAT28.9.4	
SC28.9.5		SCAT28.9.5	
SC28.9.6		SCAT28.9.6	

10.10 SC28.10. SCAT28.10.What are the inputs?

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.10.1		SCAT28.10.1	
SC28.10.2		SCAT28.10.2	
SC28.10.3		SCAT28.10.3	
SC28.10.4		SCAT28.10.4	
SC28.10.5		SCAT28.10.5	
SC28.10.6		SCAT28.10.6	

SC28.10.7		SCAT28.10.7	
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10.11. SC28.11. SCAT28.11.What are the outputs?

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.11.1		SCAT28.11.1	
SC28.11.2		SCAT28.11.2	
SC28.11.3		SCAT28.11.3	
SC28.11.4		SCAT28.11.4	
SC28.11.5		SCAT28.11.5	
SC28.11.6		SCAT28.11.6	
SC28.11.7		SCAT28.11.7	

10.12. SC28.12. SCAT28.12.What PM Tools/Techniques are employed?

SC	Object, symbol or words - UOA	SCAT	TIME
SC28.12.1		SCAT28.12.1	
SC28.12.2		SCAT28.12.2	
SC28.12.3		SCAT28.12.3	
SC28.12.4		SCAT28.12.4	
SC28.12.5		SCAT28.12.5	
SC28.12.6		SCAT28.12.6	
SC28.12.7		SCAT28.12.7	

11. SECTION 3.

SC29. SCAT29. SWOT, Risks, Success and Failure Factors

11.1. SC29.1. SCAT29.1.Identify Strengths of the traditional people?

SC	Object, symbol or words - UOA	SCAT	TIME
SC29.1.1		SCAT29.1.1	
SC29.1.2		SCAT29.1.2	
SC29.1.3		SCAT29.1.3	
SC29.1.4		SCAT29.1.4	
SC29.1.5		SCAT29.1.5	
SC29.1.6		SCAT29.1.6	
SC29.1.7		SCAT29.1.7	

11.2. SC29.2. SCAT29.2. Identify potential Weaknesses?

SC	Object, symbol or words - UOA	SCAT	TIME
SC29.2.1		SCAT29.2.1	
SC29.2.2		SCAT29.2.2	
SC29.2.3		SCAT29.2.3	
SC29.2.4		SCAT29.2.4	
SC29.2.5		SCAT29.2.5	
SC29.2.6		SCAT29.2.6	
SC29.2.7		SCAT29.2.7	

11.3. SC29.3. SCAT29.3. Identify potential benefits/Opportunities?

SC	Object, symbol or words - UOA	SCAT	TIME
SC29.3.1		SCAT29.3.1	
SC29.3.2		SCAT29.3.2	
SC29.3.3		SCAT29.3.3	
SC29.3.4		SCAT29.3.4	
SC29.3.5		SCAT29.3.5	
SC29.3.6		SCAT29.3.6	
SC29.3.7		SCAT29.3.7	

11.4. 29.4. SCAT29.4. Identify threats/risk factors?

SC	Object, symbol or words - UOA	SCAT	TIME
SC29.4.1		SCAT29.4.1	
SC29.4.2		SCAT29.4.2	
SC29.4.3		SCAT29.4.3	
SC29.4.4		SCAT29.4.4	
SC29.4.5		SCAT29.4.5	
SC29.4.6		SCAT29.4.6	
SC29.4.7		SCAT29.4.7	

11.5. SC29.5. SCAT29.5.What are the critical success factors?

SC	Object, symbol or words - UOA	SCAT	TIME
SC29.5.1		SCAT29.5.1	
SC29.5.2		SCAT29.5.2	
SC29.5.3		SCAT29.5.3	
SC29.5.4		SCAT29.5.4	
SC29.5.5		SCAT29.5.5	
SC29.5.6		SCAT29.5.6	
SC29.5.7		SCAT29.5.7	
SC29.5.8		SCAT29.5.8	
SC29.5.9		SCAT29.5.9	
SC29.5.10		SCAT29.5.10	

11.6. SC29.6.SCAT29.6.What are the failure factors?

SC	Object, symbol or words - UOA	SCAT	TIME
SC29.6.1		SCAT29.6.1	
SC29.6.2		SCAT29.6.2	
SC29.6.3		SCAT29.6.3	
SC29.6.4		SCAT29.6.4	
SC29.6.5		SCAT29.6.5	
SC29.6.6		SCAT29.6.6	
SC29.6.7		SCAT29.6.7	
SC29.6.8		SCAT29.6.8	
SC29.6.9		SCAT29.6.9	
SC29.6.10		SCAT29.6.10	

Figure 15.F2.IC. Protocol II. RCB. Video WS E-Govt Projects

5.6.4 6X6 Matrix Protocol III. RCC. IT Projects CSFs and FFs

The robust technological transformation of e-govt. adopted by international governments (Tat-Kei Ho, 2002, pp. 435-440) have empowered the WS government to conduct rigorous reforms aimed to improve free trade and eliminate poverty in Samoa. Wickramasinghe and Goldberg (2005, p. 13) argue that in the past people rejected the use of technology whereas today, what is new is the commercialization and acceptance of wireless technology aimed to minimize costs and complexity in communicating and exchanging information at the point of need, disregarding location or time. Moreover, the rise of e-commerce in the private sector reinforced the shift in the focus of government to use the internet and the www effectively and efficiently (Tat-Kei Ho, 2002; Wickramasinghe & Goldberg, 2005, p. 13). Thus two key benefits of the internet and the www are that they, allow both companies and individual citizens to exchange information and conduct business transactions, and the flexibility of the internet in providing access to goods, services and information which raised citizen's expectations of customer services in a range of contexts including interactions with governments (Tat-Kei Ho, 2002, p. 435). Those changes were highlighted in the WS government reform strategies which focused on developing and building sustainable e-business, e-govt. the service industry, as well as encouraging the building of the nationwide micro-finance entrepreneurs and entrepreneurship and SMEs. The WS e-govt. projects are immensed in size and complex as they involved

building many different types of IT and traditional projects. In addition, the information gathered from the ADB website and videos do not show how the implemented projects were measured to determine the success or failure factors which influenced the implementation processes. However, given the size and complexities involved in the WS IT projects, it was almost impossible to determine the CRS and FFs influencing implementations. Thus it is critical to content analyse the CSFs and FFs influencing the IT projects implementation from the world perspective. The success or failure of an IT project is usually measured by the PMKAs processes and applications, implementations and external factors influencing the project. The RCC Sample 3 consists of 441 textual data collected from 42 randomly selected studies. In addition, the 441 CSFs and FFs texts were sorted into categories based on the PMKAs including, integration, scope, time, cost, quality, human resources, communication, risk, procurement, stakeholders and technician for analysis (*see Appendices: 10.10. Table 10. RCC. CSFs & FFs by Author; 10.12. Table 11. RCC. Analysis CSFs/ FFs; 10.13. Table 12. RCC. Analysis CSF/FF*). The results of the content analysis of the RCA and RCB have not only gained more insight into the challenges affecting the implementation of IT projects but since e-govt. focused on creating e-businesses, this raised confusion of the current methods used to measure success or failure of IT or physical project. As a result it is necessary to investigate CSFs and/or FFs influencing the implementation of the WS IT projects in this research.

One of the problems encountered by RCA and RCB analysis was that the majority of the selected studies produced lists of CSFs and FFs influencing IT projects revealing unprecedented gaps which questioned the reliability and validation of the methods used to measure success or failure of IT projects. For example, there is a need to distinguish between the PMO and the Organisation Governance and Management (OGAM) who owns the IT project, in order to identify what responsibilities are within the PMO's control and which responsibilities should remain under the control of the OGAM. In this way CSFs/FFs that are associated with the PMO and project staff can be distinguished from those that remained the responsibilities of the OGAM thus allowing for appropriate application of policies and procedures aimed to mitigate risks, eliminate FFs and improve IT project implementations. To overcome these shortcomings, I developed *Protocol III using a 6X6 Matrix* consisting of ten

specific criteria for analysing and testing RCC based on the ‘PMO’ as demonstrated in *figure 16 below*.

Protocol III. IT Projects CSFs & FFs					
PMO	Recruit PM and Project Team	PM knowledge Areas	Organic PM Process - PLC	Technical PM Process - SDM	PM Tools and Techniques
IT Organisational Change	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Type of IT Project	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Systems Design	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Systems Alignment	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Procurement	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

Figure 16. Protocol III.RCB. 6X6 Matrix CSFs/FFs

From column one top-down the criteria are: IT organisational change (ITOC), Type of IT project, Systems Design, Systems Alignment and Procurement. Going across in row two the criteria included Recruit Project Manager and Team, PMKAs, Organic PM PLC, Technical PM SDM, and Tools and Techniques, all of which are defined *below*. The inclusion of ‘Yes’ in the matrix means ‘must satisfy all criteria’ and ‘No’ means ‘criteria not satisfied’. Finally the 6X6 matrix provides a standard guideline useful as a checklist to determine whether or not the IT project being undertaken has satisfied the requirements of what an IT project should be. While there may be problems stemming from the roles of the PMO, this study argues that in the WS context, the idea of appointing a PMO or an experienced project manager and project team whether from inhouse or from external to oversee and manage IT projects throughout the entire PLC is the best solution to adopt since the government is a project-based organization. Thus the matrix assumed that the PMO have been created by the organisation whereby project responsibilities are centralized and coordinated under its domain (or an experienced project manager and project team have been recruited). The responsibilities of the PMO (*refer chapter 4 subseciton 4.2*) may ranged from providing project management support functions to being responsible for the direct management of a project (J. Ward & Daniel, 2013, p. 6).

5.6.5 IT Organizational Change (ITOC)

ITOC - refers to IT, the internet, and the www which are key drivers of change affecting all areas of any business (Jackson & Harris, 2003). ITOC is defined as the type of IT change impacting business's information systems. This is significant because in the early stages of the OPLC the strategic solution and the type of project required to implement the change driving the organisation are identified. For example, the manager of the sales department in Kmart Retails has noticed a drop in the weekly sale in the children's clothing department that has caused decrease in profitability. The floor manager informed the top management about the problem. The IT systems analyst who conducted the initial investigation has confirmed the need for a fast solution to solve the problem. The organisation management and governance agreed that a potential strategic solution is to redesign and reengineered its current website to reach valuable customers.

5.6.6 Type of IT Project

Type of IT Project – Refers to the size and the type of product/service or strategic solution. It is also important to identify the type of company involved e.g., non-profit organisation, a limited liability, a sole trader or e-govt. etc., in order to help define the right system and transactional tasks that users of the system performed and security applications. After identifying the 'ITOC' this usually led to the defining of the 'type of IT project' to be undertaken to implement the change since 'project' is the generic vehicle mostly adopted by businesses worldwide to implement the change solution (Schiltz, 2003, p. viii).

5.6.7 Systems Design

Systems Design - refers to the defining of elements of a system such as the system architecture, modules and components, technologies and different interfaces of those components, systems alignment, assimilation and deployment strategies as well as the data that go through that system to satisfy specified requirements (Wickramasinghe & Goldberg, 2005, pp. 2-9). System development is also seen as the process of creating or altering systems, along with the processes, practices, models, and methodologies that are utilized to develop them in order to satisfy specific needs and requirements of the organization through the engineering of a coherent and well-running system (Gray & Larson, 2003).

5.6.8 Systems Alignment

Systems Alignment – is emphasized since this is one of the significant problems hindering the potentials of systems design and can lead to failure of an IT project implementation. System alignment (Aggarwal, 2010; Rouse, October 2014) involved designing of the IT and ISs soft/hardware and network infrastructures to link all appropriate internal and external users of the system including clients, employees and customers of the organisation whether they are directly or indirectly affected by the new solution in order to improve transactional interactions (Gray & Larson, 2003; Wickramasinghe & Goldberg, 2005).

5.6.9 Procurement

Procurement - involved the selling and buying interactions between PM experts and potential IT vendors. Usually, a high level of expertise is required to conduct negotiations and legal contracts once final decisions have been reached between parties (Lafayette, 2012). Depending on the type of organisation, (e.g. the complexities of the project, the size of the IT solution, contractual and legal matters, public relations, IT as well as other important aspects of an IT project) the organisation needs to consider employing a PMO or an experienced project manager to conduct and manage the procurement processes, thus ensuring that the organisation is purchasing appropriate technological hardware and software to solve the problem of the organisation and protect legal matters such as copyright infringements.

5.6.10 Recruit PM & Project Team

Recruit PM & Project team - Usually, once the ITOC has been identified, the next step involved recruiting expert PM and the project team members, or establishing a PMO that is equipped with the appropriate disciplines and skills necessary to implement the identified IT project solution.

5.6.11 PM Knowledge Areas (PMKAs)

PMKAs - refer to the PMI PMBOK ten PMKAs: integration, scope, costs, time, quality, risks, communication, human resource management, procurement and stakeholders (PMI., 2013). There are forty-seven knowledge group processes involving generic tasks to be done in order to create a product or a service (PMI., 2013). These processes contain examples of required inputs that are transformed into output using the appropriate tools and techniques necessary to achieve each task's goals and objectives (PMI., 2013).

5.6.12 OPLC

OPLC- represents the PM process phases (initiation, planning, execution, monitoring and control, and closure). For example, each of the PMBOK PMKA contained its own groups of processes and each process restarts its implementation cycle (initiation, planning, execution, monitoring and control and closing) based on the inputs required to be transformed into outputs to produce the end deliverables for each phase (PMI., 2012, 2013). The transformation outputs are carried forward from the previous phases to the next using the appropriate tools and techniques (PMI., 2012, 2013).

5.6.13 TSDM

TSDM - refers to the technical method (e.g., the iterative SDLC) that contained a series of steps (e.g., planning, analysis, design, implement, support and maintenance), used by project managers to determine, identify and develop the technological requirements, systems specifications and the scope of the IT project to be undertaken. Some examples of the TSDM included the waterfall SDLC, the new iterative SDLC, the rapid development methodology (RAD), agile, joint application development (JAD), scrum and spiral (<http://www.itinfo.am/eng/software-development-methodologies>).

5.6.14 PM Tools and Techniques

PM Tools and Techniques – are PM disciplines required to transform inputs to outputs in order to achieve the preferred outcomes of each knowledge area process. Tools and techniques are products of each PMKA process usually defined according to each stage of the OPLC and TSDM inputs and outputs (see also *Chapter 4: Figure 6. Priority Matrix Trade Off Decision Making Tool, Subsection 4.6.4 WBS, figures 7 and 8: and figures 9 and 10: Activity-On-Node and the 'Activity-On-Arrow'*).

5.7 Summary

In this chapter, I have defined the qualitative content analysis mixed research methodology and discussed the choice of this method in the field of WS e-govt. and IT projects. The qualitative content analysis is one of the many ways to analyse textual data. The product of this process is the interpretation of the meaning of the data in particular contexts. The research design model consists of four phases: preparation, organizing the data, making sense of the data and reporting

findings. In this study, all tasks of the content analysis (developing research questions, choosing the data sources and units of analysis, data collection and sampling, creating the protocols and forms for collecting information from the data sources as well as developing the coding, category and unitization scheme) were implemented concurrently. The qualitative content analysis mixed methodology can be used by itself or in combination with other empirical methods, and can be employed to examine textual data derived from several sources thus making it a versatile strategy to explore and understand complex IT project phenomena such as the WS e-govt. projects.

6 Chapter Six. Findings and Results

6.1 F1.IC.Protocol 1. RCA.Sample 1.E-Govt.WS-ADB Loan Documents

6.1.1 F1.IC.Section 1. C1. CAT1. E-govt. General Information

Three hundred and sixty-seven WS e-govt. loan documents 1998-2015 were analysed using *F1.IC Protocol 1*. (see figure 14 chapter 5). Section I gathered general information about each project.

6.1.2 F1.IC.Section 2.C6.CAT6. E-Govt. Project Management

One of the problems affecting the implementation of the WS-ADB e-govt. projects involved the dual ownership of the projects. The purpose of section 2 is to identify the relationship between the ADB and WS stakeholders. To achieve research goals, objectives and answer major research questions, I content analysis the following codes and categories as demonstrated in *Protocol 1. RCA. F1.IC. Section 2.C6.CAT6*: Who initiated the project? Who are the local project Stakeholders? Who is the PMO? Who is the primary project owner? Type of Project? Identify the PLC being employed. What are the five phases of the ADB PLC? What are the five phases of the PMI PLC? What are potential differences between PMI PLC and ADB PLC? Systems Development Methodology? Identify Key Stakeholders ADB Project. Identify key communication Modes (Strategy). Who is the PM and Team/PMO; and identify indicators of PMKAs. The codes were further broken down into units of analysis objects for reporting the analysis results. The findings and results are as follow:

The WS project administrators initiated each of the 45 projects and all expansion applications and submitted them to the ADB (*Protocol.1.RCA.F1.IC. Section 2. SC6.1.SC6.1*).

The projects are located in the rural and urban areas in WS. Once the ADB institution received a loan application for an e-govt. project from WS, the project is immediately transferred to the ownership of the bank based on the ADB PLC phases. The policies of the ADB allowed for continuity of each project per annum. This means that the project stakeholders can reapply for extension of the loans for each of the 45 original projects by simply completing the appropriate application forms based on the former project applications and the ADB PLC. Thus, the loan

documents provided a longitudinal base enabling tracking through time the development and progress of e-govt. changes worldwide and the speed of growth of the IT, as well as the increase in demands for the use of the internet and the www by businesses, governments and individuals which indicated the need for WS to invest on IT and better alignment designs for ISs to improve communication with citizens and users.

WS e-govt. projects were initiated from WS (F1.IC.S2.C6.CAT6) by any of the following: government officials, a project committee, management of a government department, Local project administrator or by a Minister of an appropriate government department.

The local project stakeholders are families of the rural and urban village communities, members of the village council, government department officials, project administrators, business owners and the Minister of a specific government department (F1.IC.S2.C7.CAT7).

The government of WS and the Samoan families and communities are primary project owners (F1.IC.S2.C7.CAT7). The village families and individuals are basically the landowners. Their main interest for participating in the government e-govt. projects is because lands and associated natural resources are required to build industrial and manufacturing, cultural and ecosystems infrastructures necessary for implementing social and economic reforms strategic visions of the government of WS.

The WS government and officials are mainly responsible in initiating each project by gathering appropriate information from the associated village communities. The end results are documented, approved and appropriate application forms are completed and submitted to the ADB for approval (ADB., 2014). Through this method each project is transformed into an ADB project. From here on the ADB PMO and project staff and consultants oversee and manage the entire project according to the ADB PLC phases (F1.IC.S2.C8.CAT8).

Each e-govt. project is initially submitted to the ADB as a single major project (F1.IC.S2.C10.CAT10) (ADB., 2014).

The ‘type of project’ is country and international level, which involved a large population of people from both WS and other countries in the world. It involved developing and building many small chunks of projects requiring interdepartmental communication and collaboration with many outsource consultants of different knowledge fields (ADB Project DS, ADB PLC) (ADB., 2014). In the early stages of the project, the ADB project staff decomposed the major project into many smaller projects that are easy to manage by one project manager. Usually, a TA (Technical Assistant) (about \$1-2m) is raised immediately for approval by the ADB PMO to hire consultants to implement and manage each small project and report back to ADB for approval ADB (ADB., 2014).

The ADB PLC (F1.IC.S2.SC11.SCAT11) was used by both the WS project staff and the ADB institution (ADB., 2014). The PLC has five phases (F1.IC.S2.C12. CAT12) including: Phase 1. Country Partnership Strategy (CPS) and Regional Cooperation Strategy, Phase 2. Preparation, Phase 3. Loan Approval, Phase 4. Implementation, and Phase 5. Completion and Evaluation as shown in *figure 17 below* (ADB., 2014).

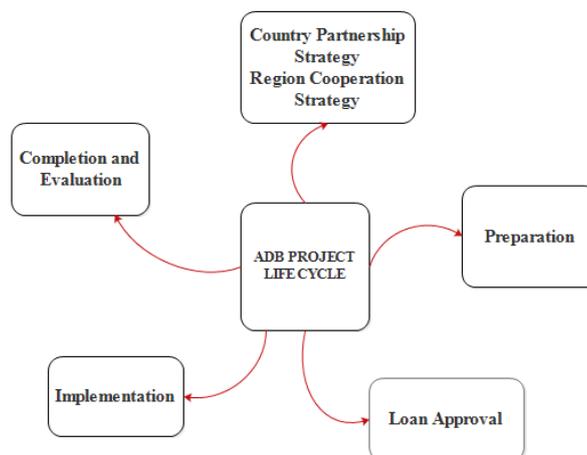


Figure 17.ADB PLC

The five phases of the PMI PLC are: initiate, plan, execute, monitor and control, and closure as demonstrated in *figure 18 below* (F1.IC.S2.C13.CAT13).

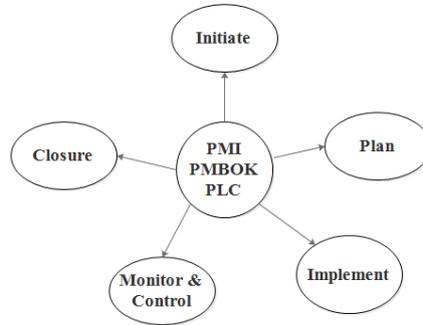


Figure 18.PMI PMBOK GUIDE PLC

The ADB's PLC and PMKAs are based on its economic analytical model which is designed for the ADB internal purpose only and may not be wise to be used by a project owner who has scarce resources and financial constraints. The ADB is a financial institution that offers funds for loan and investments. The loan payment terms are calculated based on the bank' economic indicators' fluctuations. Thus, the bank is not a donor partner for WS. The relationship between the WS stakeholder and the ADB is based on 'lender versus borrower'. The ADB can be seen in reality as purely one of the stakeholders of the WS project rather than the organisation acting as the PMO and financial investor for the WS stakeholders. Thus, its PLC is not an organic one. Also, the ADB appeared to be treating the situation involving these e-govt. projects as normal routine business operations (F1.IC.S2.C14. CAT14).

In contrast, the PMI PMBOK guideline and PLC are worldwide acceptable PM best practices which anyone from any cultural setting could use. The WS traditional project OPLC (initiate, plan, implement, monitor and control and end) works the same way as the PMI PLC. On the other hand the TSDM signifies the requirement for IT (F1.IC.S2.C14.CAT14).

Given the number of external contractors who oversee and manage small projects, the study is unable to identify the type of TSDM used by each contractor. Depending on the IT project, project managers using the PMI guidelines may use

any of the following TSDM including; Iteration SDLC, RAD, Spiral or agile (F1.IC.S2.C15.CAT15).

The ADB project stakeholders included the WS Government, Public and Private officials and groups, ADB, ADB PMO and project staff, WS traditional rural and urban communities, outsource PM and project teams, project consultants, ADB field workers, other financial institutions such as the IMF and WB (F1.IC.S2.C16.CAT16) (ADB., 2014).

The main communication strategy is through the ADB website. Deliverables in the form of outputs which were results of each phase processes where applicable are also forms of communication (F1.IC.S2.C17.CAT17). The ADB projects are oversee and managed by its PMO and project teams, hired Consultants, ADB Bank Management, Governance and staff members (F1.IC.S2.C18.CAT18) (ADB., 2014), thus it is assumed that the ADB bank is the main communication channel to maintain contact and communication between scattered project staff.

The major indicators reflecting the PMKAs applications are underpinned by the PLC's five phases (F1.IC.S2.C19.CAT19). Each phase of the PLC involved processes such as information gathering. The initiation stage of the project gathers information to determine whether or not it is feasible to implement the project. The inputs of each process in each knowledge area are integrated and transformed into required outputs using the appropriate tools and techniques. Terms such as initiation processes, stakeholder participation, information gathering, scope of the project, integration of information, inputs, outputs, tools and techniques, documentation, reporting and deliverables for each phase, iteration processes, project requirements, outsourcing, PMO, recruiting of PM and teams, IS, IT, finance and accounts, plan, design and communication systems are all textual data indicators of the PMKAs.

6.1.3 F1.IC. Section 3. C20. CAT20. ADB PLC Phases

Questions involved in Section 3 included: Describe the Country Partnership Strategy (CPS)? What are the inputs/outputs? List the tools or techniques used in this phase. Describe the

Preparation Phase. What are the inputs and outputs? List tool or technique used in this phase. Describe the Loan Approval Phase. What are the inputs and outputs? Examples of tools and techniques used in this phase. Describe the Implementation Phase. What are the inputs and outputs? List tools or techniques used in this phase. Describe the Completion and Evaluation phase. What are the inputs and outputs? List tools or techniques used in this phase. The findings and results are as follow:

In the CPS Phase (F1.IC.S3.C20.1.SC20.1), the WS approved loan application forms and supporting documents are received by the ADB headquarters project staff. A preliminary investigation is conducted to determine the feasibility of the project. If approved, the CPS report is immediately posted on the ADB site and submitted to the ADB Board of Directors (BOD). If the WS client failed to respond (that the CPS report have been received) the ADB continued to the next phase of the project by using the client's previous filed business plan, which detailed a 3 year rolling plan (ADB., 2014). During the initial phase, the processes of inputs and outputs (F1.IC.S3.SC20.2. SC20.2.) relied on information submitted by the WS project administrators, gathered from the WS local stakeholders and the appropriate government sectors. Inputs and resources are transformed into appropriate outputs using the tools and techniques based on each knowledge area processes. These outcomes are carried forward to subsequent processes until the end of each phase. The approved reports from previous phases are also carried forward to each phase of the PLC to achieve preferred outcomes. In this phase an application for TA is almost immediately raised for approval and used to hire the consultants to implement and manage small projects (ADB., 2014).

In the Preparation Phase (F1.IC.S3.SC21.5. C21.), the ADB PMO decomposed the WS major project into smaller manageable projects. Consultants are hired from all over the world to implement and manage each small project. Each consultant implements these projects from his/her own project office. Each consultant presents his/her final reports to the ADB BOD for acceptance and approval. The consultant report is integrated with the rest of the ADB PLC phases to produce final deliverables for the implementation phase. These deliverables are unknown by the WS local village communities and administrators as there is no

contact between them. Inputs, outputs (F1.IC. S3. SC21.2. SCAT21.2) tools and techniques (F1.IC. S3.SC21.3. SCAT21.3) are not known since the reports of the consultants are for the purpose of the ADB only. However, ADB documents such as the CPS document, Project Program technical Assistance (Loan), Environment Assessment Reports, Environment and Social Reports are some resources for inputs and outputs.

In the Loan Approval Phase (F1.IC.S3.SC23.1.SCAT23.1) the final report of each project consultant provided a breakdown of the approved deliverables and costs according to ADB PLC (ADB., 2014). Each project information is entered and categorized in a Project Data Sheet (PDS). Examples of the PDS categories included financial assistance, technical assistance or grant paid in the early stage of the PLC, status of the covenant categories, audited accounts, safeguard, and sector. In addition, the loan approval information are included for each PDS as well as business opportunities including consulting, procurement, fact finding, revisions, outputs and implementation progresses, project outcome, stakeholder communication, participation and consultancy-during project design. Some key inputs and outputs (F1.IC.S3.SC22.2.SCAT22.2) tools and techniques (F1.IC.S3.SC22.3.SCAT22.3) included the draft loan agreement, draft project proposal and the project administration manual.

The Implementation Phase (F1.IC.S3.C23. CAT23) refers to the WS project location. Financial approval is done and the executing agent nominated by the client (ADB., 2014) may act as the project manager for the WS project. Inputs and outputs (F1.IC.S3.SC23.2.SCAT23.2) as well as tools and techniques (F1.IC.S3.SC23.3.SCAT23.3) depend on each implementation processes and tasks required to build products and services. An administration manual is handed over to the executing agent which lays out the implementation guidelines. In an infrastructure project, detailed engineering design and bidding documents are prepared, machinery and equipment are procured, and civil works are constructed and installed. The preparatory work for construction included recruiting consultants, preparing tender documents and detailed designs, procuring equipment

and selecting contractors for construction. These activities are encouraged to be completed prior to the loan negotiation, except for the signing of contracts, to minimize any start-up delays in project implementations (ADB., 2014).

In the Completion and Evaluation Phase (F1.IC.S23.SC24.1SCAT21.1), the ADB would prepared a project completion report or technical assistance completion report within 12-24 months prior to the completion of the project to document the implementation processes (ADB., 2014). This is usually done after the project facilities and technical assistance activities are completed (not the actual implementation in WS locations (ADB., 2014). Moreover, the evaluation process usually followed the early work, concentrating on input-output relationships in projects, using the economic analysis, but evolved to cover the entire resulting chains of inputs, outputs, outcomes, and impacts (ADB., 2014). The inputs and outputs (F1.IC.S3.SC24.2.SCAT24.2) tools and techniques (F1.IC1.S2.SC24.3. SCAT24.3) for the final phase are dictated by the products and services being created and documented. While the ADB PLC organized the project processes to meet the needs of the ADB organization, the WS stakeholders are not familiar with nor aware of all project work from phases 1-5.

6.1.4 F1.IC.Section 4.C25.CAT25.IT Project CSFs and FFs

The findings and results of the RCA Sample 1 content analysis yielded a number of CSFs (F1.IC.S4.SC25.1. SCAT25.1.) and FFs (F1IC.S4.SC25.2. SCAT25.2) influencing the ADB projects as illustrated in *table 23 below*.

Table 23. CSFs and FFs Affecting ADB-WS E-govt.Projects.

No.	CSFs and FFs Influencing ADB-WS E-Govt. Projects
1	ADB PMO and PM Cooperative methodology
2	ADB Financial Institution
3	ADB PLC
4	Information Technology
5	Information Systems
6	Project Ownership Issues
7	Lack or no involvement of key stakeholders
8	Project treated as daily operational work
9	Complexities of e-govt. projects
10	ADB-WS dual project ownership issues
11	E-govt. relationship based on financial lender v borrower, not donations
12	ADB project continuity policies and issues
13	Financial institution takeover
14	Abandon projects in the local sites
15	WS outdated e-govt. approach
16	Costs, time, quality billing and loan repayment constraints
17	Poor communication strategies due to non-systems alignment
18	Costs for outsourcing, procurement and deliverables constraints
19	Bank technical assistances constraints
20	Unclear project requirements, specifications and deliverables
21	Type of project issues and challenges
22	Overall outstanding project costs
23	No systems design for IT and IS infrastructure
24	No architecture, reengineering and deployment infrastructure systems design
25	No contacts between WS stakeholders and external project managers.

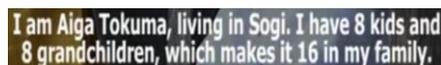
6.2 F2.IC.Protocol II. RCB. Sample 2. Video WS E-govt. Projects

6.2.1 F2.IC.Section 1.SC27.2. SCAT27.2. General Information

F2.IC. Protocol II. RCB.Sample 2 represented the WS e-govt projects from the perspective of the WS community stakeholders. A sample of 21 videos were content analyzed (*Refer chapter 5, Table 21.Videos. WS E-Govt. Projects 2009-2013*). *F2.IC Protocol II. RCB* concurrently collects information about each individual video and creates the code, category and unitization scheme. The main codes and categories are represented by questions in each section and subsection. The answers to the questions are broken down to smaller units of analysis to answer research questions. Questions involving IT PM processes and applications can also be found under the *F1.IC.Protocol 1. RCA above (also see table 24 below)*.

Section 1. F2.IC codings and categories (*F2.IC.S1.SC27.1. SCAT27.1*) included name of the video, name of the author, the category of the video and name of the project. What language/s is used in the video? Which object/s symbol/s or word/s represent/s technology? Which object/s, symbol/s or word/s appear/s to be significant in the video? Which object/s symbol/s or word/s represent/s the traditional way of doing things? Identify the project processes (initiate, plan, execute, monitor and control and end) or e.g., attributes and mechanisms of the indigenous people's traditional project. Who are the Stakeholders? What are the mechanisms of a WS Project? What are the attributes of a WS traditional activity/project? The findings and results are as follow:

The video narrators used the Samoan and/or the English language (*F2.IC.S1.SC27.2. SCAT27.2*) to explain their understanding of the significance of the projects. In some videos the contents were already translated in the English language (*MicroDreamsDotOrg., Aug 19 2009a, Time 00.39.*) as demonstrated in *figure 19 below SPBD in Action*.



I am Aiga Tokuma, living in Sogi. I have 8 kids and 8 grandchildren, which makes it 16 in my family.

Figure 19. Samoan & English Translation Video.SPBD in Action

The Samoan narrators described each project through story telling. For example, in the water management project (*TheIWCWaterChannel., 2012, Time.*

09.04, 09.41, 10.15), the community project members discussed certain aspects of the project that have impacted their everyday living, the tasks they performed, issues and challenges affecting the communities stem from incomplete projects, as well as the nature of the projects, procedures, rules, responsibilities challenges and constant environmental changes affecting the local communities implementation.

Some examples of texts and objects (F2.IC.S1.SC27.2.SC27.2) used by the locals which represented technology included:

“Words and images such as ‘markets’ and ‘logistic’ (G. Ward, 2011, Time 00.43, 01.15, 01.28) in the Samoan language were emphasized by the locals which indicated the significance of the need to build businesses and find markets for trade. The SPBD staff physically delivered banking services (MicroDreamsDotOrg., Aug 19 2009a, Aug 19 2009b, March 31 2009) to the locals. The value of an object to the locals is also demonstrated in the transformation of a traditional Savai’i family to a modern unit (South274., 2009). Texts and images such as ‘products’, ‘service’, ‘businesses’, ‘markets’, ‘information’, ‘computers’, and pc monitors indicated the need for ISs and IT” (BodyShopGreece., 2012; sgpsamoa, 2011; South274., 2009; WIBDI., 2012a, 2012b).

Some texts used by the project community which indicated the significance of matters arising from the project (F2.IC.S1.SC27.4. SC27.4) included:

“chosen products”, “need to pay off loans”, “help the family”, “earning own monies” (MicroDreamsDotOrg., Aug 19 2009a, Time 00.57, 01.03, 01.11), “lack of funds”, “unfinished projects”, “no one to communicate to”, “water pipes”, “water”, “lack of water” (TheIWCWaterChannel., 2012, Time. 07.08, 08.15, 09.05, 09.38, 11.31).

The SPBD (MicroDreamsDotOrg., Aug 19 2009a, Aug 19 2009b, March 31 2009) is a network of microfinance organizations working in Fiji, Samoa, Tonga and the

Solomon Islands dedicated to eradicating poverty by empowering women in poor rural villages with the opportunity to start, grow and maintain sustainable, income generating micro-enterprises and SMEs (SPBD., 2013).

Textual data, objects and symbols that represented the Samon way of doing things (F2.IC.S1.SC27.5. SCAT27.5) are demonstrated in the water management project (TheIWCWaterChannel., 2012, Time. 03.45, 03.50) in *figure 20*. Also see (ADB, Aug 5 2011; FAO, 2013; Hesling, 2010; PasefikaCommunications., 2012; Pleasetakemetoo., 2010; Scott, 2011; South274., 2009).

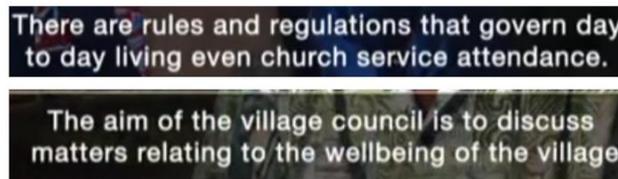


Figure 20. Snapshots from Video:Water Management in Samoa

The findings and results of the Video analysis showed that the WS project/activity OPLC five phases (F2.IC.S1.SC27.6. SCAT27.6) (Archivesnz, 1995; Archivesnz., 2012; Mears, 2012) are similar to those of the PMBOK PLC (PMI., 2012) as illustrated in *figure 21 below*:

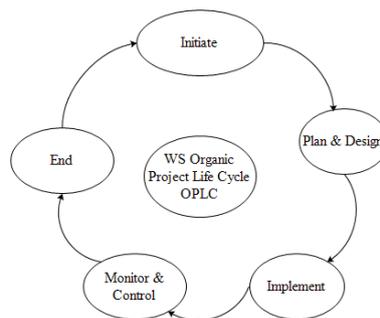


Figure 21. WS Organic Project Life Cycle

The WS ADB e-govt. project stakeholders (F2.IC.S1.SC27.7.SCAT27.7) may include government department officials, a Minister of a specific public or private sector, members of village councils, businesses, and project communities (see ADB WS Project Data Sheets).

Figure 22 below illustrated core mechanisms of a WS traditional activity/project (F2.IC.S1.SC.27.8. SCAT27.8): (1) information, (2) resources, (3) tools, (4) inputs, (5) outputs, and (6) systems. WS is is vulnerable to natural disasters, thus, the time factor is extremely important as this made it possible to track, how far back technology has been available based on the relief project implementations (Fairbairn, 1997; Wheeldon, September 2010). Also evidence of the widespread of colonialism and globalization eras continued to diffuse IT and business innovation across the entire country (Archivesnz, 1995; Archivesnz., 2012).

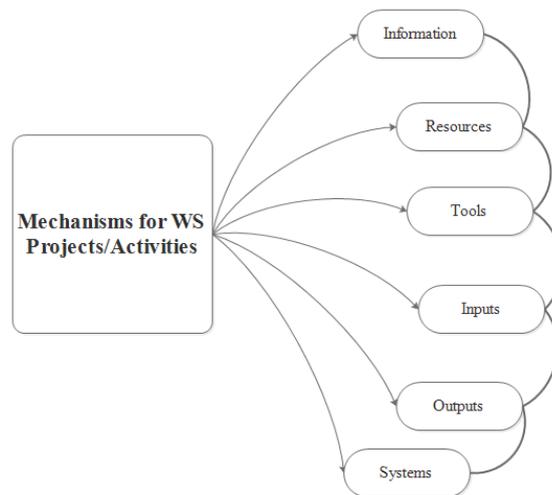


Figure 22. Mechanisms of the WS Traditional Activites

The attributes of any Samoa project/activity (F2.IC.S1.SC27.9.SCAT27.9) are similar to those of the modern Western IT PM activities (Archivesnz, 1995; Archivesnz., 2012; Mears, 2012). A traditional Samoan project has a unique purpose, it is temporary, it is developed using progressive collaboration, and requires resources from various areas including people, hardware, software and other assets (FAO, 2013; Schwalbe, 2010). The traditional Samoan projects may have a primary sponsor/s or project owner/s who represent/s the village family entity, creates project plans, monitors and provides directions (ADB., 2014). The project owner is responsible for funding the project and coordinating his/her work with other stakeholders throughout the entire OPLC (ADB, Aug 5 2011; MicroDreamsDotOrg., Aug 19 2009a, Aug 19 2009b, March 31 2009). While every project is unique, uncertainty is one of the

main reasons PM can be insanely challenging. For example, it is difficult to define clear project objectives or estimate how long or how much it will cost to complete implementation of a project (Schwalbe, 2010). When analyzing the elements of WS project/activities, an iterative backward-forward behavioural pattern emerged when systematically assessing the 1990, 1991 and 2009 natural disasters that hit the island causing high levels of damages to the natural environment, structures and infrastructures. This means that given the time factor, once a disaster hit any part of the island, the traditional Samoans fall back to their traditional skills and knowledge of doing things with greater dependency on the land natural resources for survival, but in combination with the readily available technological tools, equipment and communication devices that have the capabilities to speed families, systems and infrastructure rebuilding processes (WashDistribution., 2012; Wheeldon, September 2010).

6.2.2 F2.IC. RCB. Section 2. C29. CAT29. WS E-Govt. Implementations

Unlike the professional project managers, traditional Samoans do not talk about the hows of the business plan and design, or how the feasibility study was conducted, or what was required to implement tasks to achieve goals and objectives. For this reason, codes and subcodes, categories and subcategories were further decomposed into smaller units of analysis as illustrated in *table 24 below*. The videos were taken from the rural and/or urban village locations in which specific major e-govt. projects were physically undertaken and staffed by rural and urban community members as well as government private or public sector officials and communal forums (e.g. Water Management (P1); The Samoan Way video which included the: SME and Service Industry (time 04.12), Ultra Sound Service (P2) (time 05.58), Government Company Act Reforms (P3) (time 03.26), the Fishing Business (P4) (time 04.57) (PasefikaCommunications., 2012); the WIBDI Coconut Oil (P5). Each project is marked as very significant to the traditional villagers in both rural and urban areas as they usually involved developing and building products/services for consumption.

Unit “significance of project” (*See table 24 below*) marked each project as “very significant” to the WS communities as these projects involved installing industrial, and manufacturing infrastructures and ecosystems such as pipelines to improve water supply, electricity, and agricultural food and vegetation systems as well as building businesses aimed to eliminate poverty. These signified the need for aligning the government’s IS portal interface with the rural and urban community

systems to enable better interaction between government officials and citizens for the provision of public and/or private goods and service for consumption and improved communication.

Table 24. Content Analysis WS Video Projects.

Content Analysis for Western Samoa Video Projects From 1989 to 2014																	
No	Questions	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14	P15	P17
1	Language Used English Samoa	ES															
2	Significance of Project	Very															
3	Project Location	RU															
4	What changed	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+
5	Type of Project	In/e-Govt															
6	Project Manager and Team	TVC															
7	Systems Design	NA															
8	Traditional Way	SKB&STT															
9	PM Processes	SKB&STT															
10	Project Stakeholders	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+	1+
11	Project IT System	NA															
12	Project Deliverables	NA															
13	System Users	NA															
14	Inputs	AR	IT	IT	AR												
15	Outputs	BI															
16	Tools/Techniques	SKB&STT															
17	Strengths	NA	CB*	CB*	CB	NA											
18	Weaknesses	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
19	Project Success Factors	NA	CCB*	CCB*	NA												
20	Project Risk Factors	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
21	Systems Alignment	NA															
22	Documentations and Reporting	SKB&STT															
Legend																	
ES= English Samoan																	
1+=Very Significant																	
In/e-Govt= Industrial/e-Government																	
RU=Rural/Urban																	
eB=e-business/e-govt																	
TVC= Traditional Village Communities																	
NA=Not Applicable																	
AR= Available Resources																	
SKB&STT=Samoa Knowledge Base, skills, tools & Techniques																	
IT= Information Technology																	
CB=Customer Base																	
CCB=Customer Client Database																	
√=All Round																	
Very=Very Significant																	

Unit “project location” stated that the project locations are mainly in rural/urban areas which also identified the local village landowners and their contributions to project requirements (F2.IC.S2.SC28.7.SCAT28.7). These lands and natural resources are regarded as organizational assets that are leveraged by the new project business solution to help minimise government costs. Usually, projects and project locations are both significant as the geographical makeup of the project location links to the demographic makeup of the village and region that the e-govt. solution have planned to target.

Unit “what changed” identified key factors such as the environment, IT, politics, law, social, economic and globalisation driving changes affecting the locals’ cultural environment and ecosystems.

Each project was initiated (F2.IC.S2.SC28.3. SCAT28.3) by an appropriate government sector official/s from any of the following departments: Education, Health, Agriculture, E-Business and Finance, Law and Service Industries or the e-govt. services (*see Project Data Sheets and supporting documents. Table 19 & 20 chapter 5. List of Major WS Projects 1998-2014*)

The unit ‘type of project’ (*see table 24 above*) focused on e-govt. and e-business, for example, each individual project P1-P17 is citizen-centric. Thus, for the WS e-govt. to be successful, citizens needs and expectations are central to its business plans and designs, while IT and ISs make it happen. The unit “type of projects” showed that e-govt. projects are multi-level (i.e., country, international and global) multi-field, multi-projects which involved building and designing of many businesses. Further the “type of project” identified areas requiring immediate attention (e.g water, food, shelter, electricity and education). Thus, projects are usually awarded to traditional village rural and urban areas that are constantly affected by change for the promotion of sustainable development.

Unit “project manager and team” (F2.IC.S2.SC28.4. SCAT28.4) identified the “Traditional Village Council and Community” who are project members in partnership with the government private, public or non-profit sector officials.

Units “Systems Design” and “Not Applicable” indicated the lack of WS locals participation in the ADB project processes and decision making (*See FI.IC.Protocol I*). The PLC used by the WS officials to initiate the project is the ADB’s PLC (FI.IC.S2.SC28.5. SCAT28.5).

Units “Traditional Way”, “PM Processes”, “Stakeholders”, F2.IC.S2.SC28.5. SCAT28.5) “Tools and Techniques”, “Administrative Tasks” and “Reporting” are central to the OPLC of a WS project/activity (PasefikaCommunications., 2012). In addition, these units served to identify the type of knowledge, skills, processes, tools and techniques involved in the implementation or operational and functional areas of the projects in the traditional manner compared to the PM ten PMKAs, processes, tools and technics (PMI., 2012, 2013). From the Samoan perspective, the WS traditional knowledge-base also provides guidelines to project processes the

communities and leaders may perform (TheIWCWaterChannel., 2012). Practically, members of the community are involved in planning and implementing the project with the assistance of appropriate government officials or sub-groups who would visit the community a few times to check and update their reports on the project progress and/or issues and challenges arising from the implementations. The ADB officers may visit the local project locations a couple of times throughout the PLC (4/5years) and usually would cause friction amongst the locals since no one is aware of their reasons for being there unexpectedly (ADB., 2014).

Unit “information technology” give rise to common questions any IT project manager would ask such as: What is the IT solution? What IS is being employed? Describe the system alignment infrastructure? Who administrates or monitors and controls the project? What are the IT deliverables? Are the local stakeholders aware of the deliverables? What type of support and maintenance is offered? Refer to (*Protocol I RCB.Sample 1 ADB-WS e-govt projects above*) for findings and results to these questions.

During the analysis, it was difficult to identify business IT and systems locations in most videos in the rural areas. However, a logo with the name ‘technology tradition trade’ was spotted on the door of the building (WIBDI., 2012b, Time 01.27) as illustrated in *figure 23 below*. This indicated that this may be the administration headquarters for Women in Business Development Incorporation (WIBDI) projects which is located away from the manufacturing location close to the urban area.



Figure 23. WIBDI Organic Farming Business Brand Showing IT

However, the majority of the manufacturing components of the projects and operation are not aligned with any ISs which indicated that government services maybe delivered manually by the appropriate sectorial officials to the communities (TheIWCWaterChannel., 2012). In the urban area, the owner of Foloia Avia's Fishing boats (PasefikaCommunications., 2012, Time 04.57) sits above the sea to perform daily routine work in managing the fishing boats. On the other hand, the findings revealed a female from some business in the urban areas using a PC Monitor and IS (PasefikaCommunications., 2012, Time 11.10). The study is unable to access the interior of government departments and/or businesses in their locations since they are not shown in the videos

When collaborating unit "inputs" (F2.IC.S2.SC28.10. SCAT28.10) with the traditional project processes, it was found that the technical work depended very much on the availability of resources from the ADB to build required systems and infrastructures in accordance with the project plan in order to address the needs of the affected people (PasefikaCommunications., 2012; TheIWCWaterChannel., 2012). This also means that any equipment that may have not been delivered or not included in the scope of the project can be the cause of incomplete projects. On the other hand, unit "outputs" (F2.IC.S2.SC28.11.SCAT28.11) depended on unit "inputs" and the availability of the resources, thus, if there were no inputs then there were no outputs.

Unit "tools and techniques" (F2.IC.S2.SC28.12. SCAT28.12) were also defined depending on what inputs are to be transformed to achieved the desired outputs. In most cases the Samoan traditional knowledge base tools, skills and techniques were utilized (ADB., 2014).

Unit "traditional way" of doing things indicated that project tasks were performed manually, using the Samoan traditional IK (WIBDI-Samoa, 2012; WIBDI., 2012a, 2012b). In business videos such as: the Salani Surf Resort (WashDistribution., 2012); the SME centre (time 04.08); Foloia Avia's Fishing boats (time 04.58); the Samoa Ultra Sound Service (time 05.53) (PasefikaCommunications., 2012); and the WS education project (ADB-WS, 5

August 2011) are some examples of the ADB-WS e-govt. projects which showed employees and students who are the main users of the systems (F2.IC.S2.SC28.8.SCAT28.8).

Usually, project teams in the rural areas may consist of the village council and members of the community at large (TheIWCWaterChannel., 2012). Tasks are divided and subdivided based on the required processes and available resources (TheIWCWaterChannel., 2012). The traditional village council management team and staff are unpaid workers who are responsible in implementing, managing and monitoring project processes throughout the OPLC including operations and functional tasks (WIBDI., 2012b)

Verbal communication methods are used throughout the OPLC. In the water management project (TheIWCWaterChannel., 2012) staff verbally report to the village council first, water issues and/or challenges arising from community members' feedback. Otherwise, issues and challenges or any matters not within the control of the village council are reported to the appropriate government department representatives or to any other non-government organisation responsible. Transformation of inputs to outputs is conducted using physical tasks and verbal communications as demonstrated in *figure 24* (BodyShopGreece., 2012,Time. 00.43, 01.10) in the manufacturing and physical project environment.



Figure 24. WIBDI Coconut Oil Production Manual System

Business videos such as the WIBDI Coconut Oil Production highlighted the need for 'international markets'(BodyShopGreece., 2012; WIBDI-Samoa, 2012; WIBDI., 2012a, 2012b). They also, indicated the need for transactional ISs to enable conducting effective and efficient business operations. The manufacturing and logistics are performed by either unpaid or very low paid workers from the villages (BodyShopGreece., 2012) as depicted in *figures 25 and 26* .

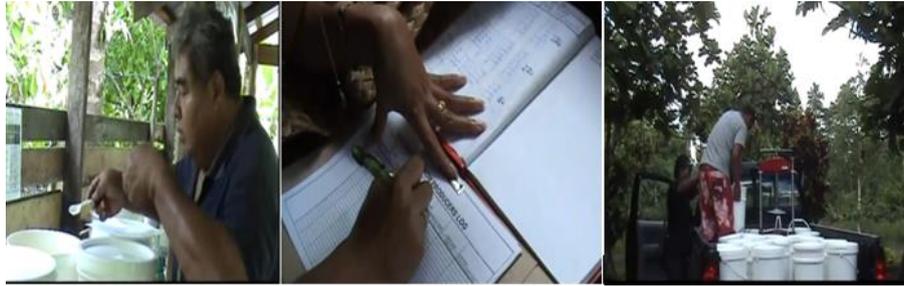


Figure 25. Manual Testing and Recoding of Oil Products Processes

During each stage of the processes the staff (time 01.40) tested the oil by tasting and smelling samples (time 01.41) then recorded and documented the processes (time 01.47) before the oil can be sent away for further scientific testing (time 01.54) (BodyShopGreece., 2012).



Figure 26. Scientific Testing of the Oil-Manual Tasks

Once the testing is completed (BodyShopGreece., 2012, Time. 01.58, 02.04, 02.16) the oil is exported to global markets and some sold in local markets (time 02.34). The SPBD (MicroDreamsDotOrg., Aug 19 2009a, Time. 00.10) provides financial services to micro entrepreneurs as demonstrated in *figure 27*.



Figure 27. SPBD Provides Financial Service to the Community

Some of the limitations of this study involved the lack of information and awareness about the projects from the WS stakeholders' ownership. The units "weaknesses"

and “strengths” work hand in hand. The traditional people’s strength can be envisaged by the determination shown by traditional Samoan project communities to work even harder to improve their situations (TheIWCWaterChannel., 2012; WIBDI-Samoa, 2012; WIBDI., 2012a, 2012b). In contrast, the weaknesses dominating the projects were underpinned by the ineffectiveness of the systems design, lack of systems alignment and transactional systems essential for recording, storing, documenting and reporting (*See FI.IC.Protocl I. RCA*). Based on the video evidence, one of the many weaknesses dominating the e-govt. projects involved the locals’ lack of or no understanding of the project deliverables, which is the result of lack of or no participation of the WS stakeholders in the ADB projects (ADB., 2014). Further, the videos do not show a modern PMO or experienced project manager/s, or IS alignment for the WS stakeholder project locations. In the water management video, grievances of the village community focused on the lack of water supply due to undelivered equipments which resulted to incomplete project. Most projects displayed signs of neglect due to their continuity nature causing friction and frustration amongst stakeholders. The ADB plans to follow up project processes and communication with the WS stakeholders were not performed. In addition, political changes such as ‘change of government’ provided serious uncertainty constraints hindering e-govt. transformation. The WIBDI oil production video has demonstrated the need to scientifically test the products and record processes and results which indicated the need for proper transactional systems to improve staff performance. Another example is demonstrated in the “Water Management in Samoa” video in which the villagers suffered a great deal from having very little or no access to drinking water (TheIWCWaterChannel., 2012). The village council and villagers are the project staff and management *see figure 28* below (time 02:48) which showed members of the village council discussing their water problems.



Figure 28. Traditional Village Council Project Stakeholders

6.2.3 F2.IC. RCB. Section 3. SC29. SCAT29. Risks, SWOT, CSFs & FFs

Codes and categories that are involved in Section 3 included: Identify potential strengths of the traditional people? Identify potential Weaknesses, Identify potential benefits/opportunities? Identify risk factors? What are the critical success factors? What are the failure factors? It was found that:

The unit of analysis “Strength” of the village project community is demonstrated by the willingness of the land owners to contribute their lands, resources and manpower to initially constitute the organisational resource requirements. These contributions also strengthened the traditional Samoans to maintain and enhance natural resources from the land which enabled them to satisfy their own basic needs (*see project loan documents chapter 5*). The SME centre (time 04.08), Foloina Avia’s Fishing boats (time 04.58) and the Samoa Ultra Sound Service (time 06.53) (PasefikaCommunications., 2012) are three of the e-business owners, whose comments emphasized on the importance of improving “business delivery” to increase “customer bases”.

“The Ultra Sound Service business owner (PasefikaCommunications., 2012) also discussed the value of IT to his business which is a key factor that contributed to the increase in profitability. However, a major concern of the manager was related to poor economic performance and the unstable value of the samoan tala as well as the impact of foreign exchange rates which contributed to “high costs” of technological equipments and cost of living”.

The internal “Weaknesses” of the projects are abundant due to uncertainty stemming from the lack of input from the ADB required to build IT business, industrial, manufacturing ecological systems and infrastructures. Some of these projects are incomplete but are treated as ongoing and long-term.

The villagers seemed to be completely omitted from the project planning, designing and implementations visions and strategies for WS e-govt. projects designed by the ADB ownership (*See Protocol 1 failure and success factors*)

There are high levels of risks all round e.g., levels of unaccountable deliverables compared to corresponding billings of unpaid accounts, incomplete projects, non availability of support and maintenance, no connection to project consultants and the bank as well as to other key stakeholders for each project. The comments from some video narrators below indicate FFs affecting projects implementation:

A member commented “For issues pertaining to water pipes, there is a committee that inspects every family taps and pipes (time 05.41) but the responsibility primarily rests with the government’ (time 05.51). The villagers also assist in the managing of water through monitoring of the burst pipes” (TheIWCWaterChannel., 2012).

Member commented (TheIWCWaterChannel., 2012, Time 06.02) “The committee had notified the water authority that any problems occurring from inside their control would be their direct responsibility, otherwise each family may need to resolve the issues themselves, this is because of no funding available to fix the problems”.

A village committee member commented, (TheIWCWaterChannel., 2012, Time. 06.23, 07.58) “Water is a big problem in Sataua village because they can only access water from a short period of time”.

The Village Mayor (TheIWCWaterChannel., 2012, Time 08.01) “The village council had requested the government to source funds in order for the water to operate 24 four hours but unsuccessful”.

Village Commentator (TheIWCWaterChannel., 2012, Time. 09.01).
 “The water supply is so unreliable so that some people have abandoned their families and villages by moving to rural areas where they can access water 24 hours a day (which indicated that the e-govt. services are not servicing the people of Sataua). Since after the original water management project implementation in which the water pipes were miscalculated, the village of Sataua has been abandoned and rest of the villages could not get water supply”.

6.2.4 F2.IC. RCB. Section 4. IT Projects CSFs and FFs

Finally the CSFs (F2.IC.SC29.5.SC29.5) and FFs (F2.IC.S2.SC29.6.SC29.6) affecting the WS e-govt. projects are listed in *table 25 below*.

Table 25. FFs RCB. Sample 2. Video WS-E-govt.Business

No	FFs-PROTOCOL II. RC2. SAMPLE: VIDEO ANALYSIS
1	Grievances of the traditional people over loses. Citizens excluded from e-govt.
2	No participation of the traditional project community with the ADB Projects
3	Overall, insufficient information about the project – from ADB
4	Insufficient information regarding the scope, deliverables, and systems support
5	No IT, no systems Alignment
6	Inadequate supply for community basic needs e.g. water, food, electricity
7	Incomplete projects, lack of government sector participation,
8	Uncertainty, due to lack of communication
9	No funds available to the local project staff to maintain project systems
10	Lack of awareness of IT deliverables
11	Non-availability of documentations and reporting systems
12	Focus on developing and building IT businesses while IT and IS are excluded
13	Insufficient internal and external project communication system
14	Undelivered deliverables
15	Project continuity constraints
16	Unpaid project funds
17	Potential loss of locals’ properties and resources

6.3 Protocol III.RCC. 6X6 Matrix Sample 3. IT Projects CSFs and FFs

Firstly, the results of RCA and RCB yielded forty-two CSFs and FFs influencing the implementation of the WS-ADB e-govt. projects from 1998 to 2015 (*refer Chapter 6 tables 23 & 25: CSFs and FFs affecting ADB-WS e-govt.projects*). These factors were added to RCC Sample 3 for the content analysis process.

The RCC, IT projects CSFs/FFs were analysed and tested using *Protocol III. 6X6 Matrix* (*refer chapter 5 sub-section 5.6.4*). The CSFs and FFs texts were gathered from IT projects implemented by various organisations such as: architecture, engineering and construction; business administration; warehousing; business intelligence; supply chains; healthcare; IT change management; higher education; knowledge management; risk management; e-govt.; IT projects; e-business development; e-tender construction; decision support, software development; ERP systems development; ADB; e-business Australia; e-business China; and e-business in WS. The findings and results of the analysis test showed that 7 studies successfully met the 6X6 Matrix criteria as illustrated in *table 27 below*. Also See *Appendix 10.14.Table 13.RCC.Analysis Results CSFs/FFs*.

Wickramasinghe and Goldberg's (2005) study met all criteria of Protocol III, demonstrating excellent knowledge of the PMKAs group processes and applications (PMI., 2012, 2013) with thorough understanding of the 'change' driving the old healthcare system. In the early stages of the e-Health project, the "organisational change" the "strategic solution", and the 'type of IT Project' were identified and defined (Wickramasinghe & Goldberg, 2005). The e-health care project is complex in that it involved building many small businesses, thus the appropriate PMOs were recruited to oversee and manage the e-health implementations. In addition, the success of the healthcare implementation indicated rigour collaboration of top level PMOs and the organisation's top level management with outsourced consultants to oversee and manage the implementations throughout the entire PLC which contributed to successful end results (Wickramasinghe & Goldberg, 2005). Similarly, Phan (2008), Blindenbach-Driessen and van den Ende (2006), Nah and Delgado (2006), Nah et al., (2001), Cameron (2005) and Hanafizadeh et al., (2012)'s studies all satisfied Protocol III RCC 6X6 Matrix criteria.

Aggarwal (2010); Lee (2005) and Kelegai and Middleton (2004) studies were marked as ‘e-govt.’ in the CSFs/FFs analysis since they are the only clear cut studies that focused on ‘e-govt.’ projects see *Appendix 10.14. Table 13. Analysis Test Results.*

Finally, the rest of the studies as demonstrated in *table 27 below* provided numbers of IT projects CSFs/FFs such as, the human resource management, employee grievances, unavailability of appropriate hardware/software, lack of knowledge and understanding of business process, standardisation issues, change management, motivation, capability and communication etc.

Table 26. Protocol III RCC.IT Projects CSFs/FFs Test Results

Protocol III. RCC Test Results			
No	Name and Year o	NO	YES
1	Wickramasinghe, N., & Goldberg, S. (2005)	0	1
2	Phan, D.D. (2004).	0	1
3	Blindenbach-Driessen, F., & Van Den Ende, J. (2006).	0	1
4	Cameron, J. (2005).	0	1
5	Nah, F.H., Lee-Shang Lau, J., & Kuang, J. (2001).	0	1
6	Nah, F. H., & Delgado, S. (2006).	0	1
7	Hanafizadeh, P., Gholami, R., Dadbin, S., & Standage, N. (2012)	0	1
8	Sangar, A. B., & Iahad, N. B. A. (2013).	1	0
9	Ab Talib, M. S., & Abdul Hamid, A. B. (2014).	1	0
10	Aziz, N. M., & Salleh, H. (2013). (construction)	1	0
11	Xu, H., & Hwang, M. I. (2007).	1	0
12	Xue, Y., Liang, H., Boulton, W. R., & Snyder, C. A. (2005)	1	0
13	Ngai, E. W. T., Cheng, T. C. E., & Ho, S. S. M. (2004).	1	0
14	Gardner, S., & Ash, C. G. (2003).	1	0
15	Miskon, S., Bandara, W., Gable, G. G., & Fiel, E. (2012)	1	0
16	Love, P. E., Irani, Z., Standing, C., Lin, C., & Burn, J. M. (2005)	1	0
17	Standing, C., Guilfoyle, A., Lin, C., & Love, P. E. (2006).	1	0
18	Chua, A., & Lam, W. (2005).	1	0
19	Almajed, A., & Mayhew, P. (2013).	1	0
20	Kappelman, L. A., McKeeman, R., & Zhang, L. (2006).	1	0
21	Keil, M., Cule, P. E., Lyytinen, K., & Schmidt, R. C. (1998).	1	0
22	Nikakhtar, N., & Jianzheng, Y. (2012)	1	0
23	Stevens, K., & Fowell, S. (2003)	1	0
24	Manchanda, V. (2005).	1	0
25	Mesnita, G., & Vasilica, T. (2003).	1	0
26	Pinto, J. K., & Mantel Jr, S. J. (1990).	1	0
27	Yeo, K. T. (2002).	1	0
28	Lou, E.C W., & Alshawi, M. (2009)	1	0
29	Dubelaar, C., Sohal, A., & Savic, V. (2005).	1	0
30	Shehu, Z., & Akintoye, A. (2010).	1	0
31	Li, J., & Huang, J. (2004).	1	0
32	Kumaraswamy, M. M. (2007).	1	0
33	Kelegai, L. K., & Middleton, M. R. (2004). *	1	0
34	Aggarwal, H. (2010). *	1	0
35	Lee, D. D. (2005, January).*	1	0
36	WS E-Government Projects	1	0
37	WS E-Government Ebusiness Projects	1	0
38	WS E-Government Public and Private Services	1	0
39	WS E-Government Entrepreneur and small business	1	0
40	WS-E-Government small businesses	1	0
41	Asian Development Bank Samoa Projects	1	0
42	Western Samoa Development Bank Business	1	0
42	Total	35	7

Note: The first four authors pass the CRS/Risk Fail Test
 * Nos 32, 33, 34 with are the only three studies that provide examples of the nature of E-Government Projects

The listed CSFs/FFs texts have not been defined to determine whether or not they fall under the PMO roles and responsibilities or those of the OGAM. For example, there is a need to define the term ‘top management’ because the top OGAM manages the organisation while

the PMO or project manager's role is to oversee and manage the project implementation. Thus, problems that affect employees and jobs stability may fall under the role of the organisation's human resource management department. Ab Talib and Abdul Hamid (2014) did not specify the IT 'organisational change' which can help identify the strategic solution and the type of IT project systems requirement compared to Wickramasinghe and Glodberg (2005) who identified the ITOC which enabled defining the appropriate strategic solution and type of systems architecture required to address the void in the old healthcare system.

Overall, the RCC results showed that 17% of the studies satisfied all criteria of the 6X6 matrix compared to 83% who were unsuccessful as demonstrated in *figure 29 below*. This means that the listed CSFs/FFs texts are inconsistent and may question the validation of past methods to determine CSFs/FFs influencing IT projects implementations.

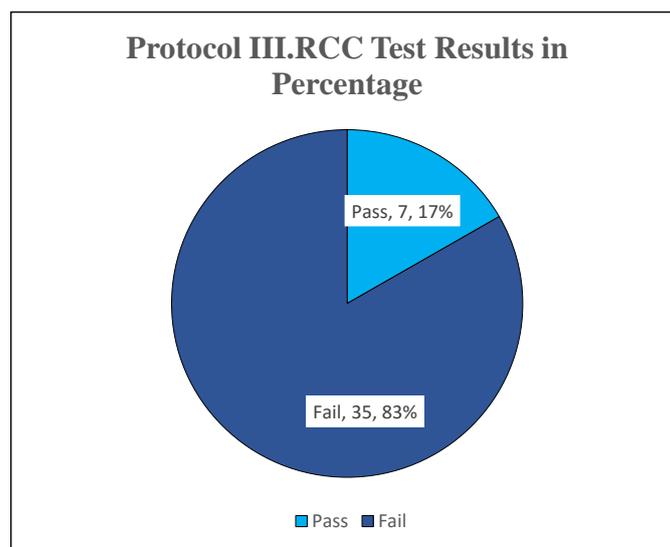


Figure 29. CSFs & FFs Test Results by Percentage

Moreover, it could mean that the IT projects implementation per se were successful under the PMO's jurisdiction, but the failure factors may fall under the jurisdiction of the OGAM. Thus the high levels of reported failed IT projects may have been over exaggerated.

6.4 Summary

In summary, *chapter 6* presented the research findings and results. First, 367 WS-ADB loan documents dated 1998-2015 were analyzed according to the RCA Protocol I. F1.IC. The longitudinal nature of the documents enabled tracking and monitoring IT and ISs changes and trends. The usefulness of this approach helped measure the effects of global diffusion of world

governments e-govt. strategies and e-business impacting WS project implementation. The WS government adopted the e-govt. strategic vision to implement its socioeconomic reforms. The major projects involved developing and building sustainable SMEs, public and private business industries, government law reforms; e-govt. service delivery systems, service industry, micro finance entrepreneurs and the development of entrepreneurship nationwide. The projects were distributed evenly amongst rural/urban locations across the nation. The projects after submission to the ADB are transformed automatically to become the ownership of the ADB. The duration of each project is estimated to be 4/5 years. The ADB policy allowed for applications for expansion of the loan which means that the local stakeholders can apply for continuation of project implementations.

The concept of e-govt. is complex. The unit 'type of project' which is level 1, is based on country and international levels, multi-field, multi-project. WS e-govt. socioeconomic reforms aimed to improve free market trade and eliminate poverty. There are four equally important components of e-govt. including: the e-Govt. governance, e-citizens, e-business, and ICT, although the e-citizen and the IT and ISs components were excluded from the WS e-govt. transformation. E-govt. requires development and creating designing and planning many business plans and implementing them. Most significantly, it requires the government to invest a large amount of finance and resources on Information technology. IT is the enabler of e-govt. In general, the ADB PMKAs processes and disciplines are based on its adopted 'economic analytical model'. The ADB's PLC consists of five phases including: CPS, Preparation; Loan Approval; Implementation; and Completion and Evaluation. In the early stages of the PLC, a number of consultants are hired from the global market, to plan, develop and design the scope and deliverables of each sub-project, which is made possible by a loan called TA (1-2m USD) in addition to the approved project loan. If a project is not approved, the stakeholder is responsible in paying off the TA which is automatically raised by the bank in the early stages of the project.

The dual project ownership is one of the major problem hindering the successful implementations of WS e-govt. projects. The ADB is a major financial investor that have been offering financial opportunities for the WS government to implement its e-govt. projects for socioeconomic reforms since 1998-2015. The results also showed that the ADB PLC is different from the PMBOK PLC because it is not an OPLC which anyone in general can use. The ADB

approach is based on the 'economic analytical model', secondly, the bank is a financial institution that is interested in high levels of returns on investments, thirdly, the ADB is not a financial donor for underdeveloped or developing nations, fourthly, the ADB-WS relationship is based on a financial 'lender versus borrower'. This means that the WS stakeholders are expected to pay back monies owing according to the bank's loan terms and conditions. Finally the communication method used (website) is problematic. The key issue producing challenges to the WS e-govt. experiences is underpinned by the exclusion of IT and ISs from all projects. However, the results of each phase of the PLC are posted on the organisation's website for the WS stakeholders to access and provide feedback. Arguably, the communication system is questionable given the inadequate IT and nil systems alignment, thus the WS stakeholder can not access posted results on the internet. Given that the ADB is an independent financial institution, the preferred option for WS would be to hire an appropriate PMO to conduct and manage its IP project businesses.

In the RCB, 21 videos containing WS e-govt. service and SME projects from 2009-2012 were analyzed using Protocol II F2.IC. The findings and results revealed a host of issues entailing challenges faced by the WS e-govt. stakeholders. For example: the exculsion of IT, the complexity of e-govt. projects, the dual ownership effects, and grievances of WS stakeholders due to neglected projects, and project costs and time constraints are some of the few FFs that impacted on the ADB e-govt. implementations. The WS traditonal project activities mechanisms and attributes are similar to the PMI PMBOK guideline approach. Thus, it should not be a problem for the WS people to adopt the PMI PMBOK guideline to help improve its implementations in future.

The RCC IT projects CSFs and FFs were analysed and tested using the Protocol III.6X6 Matrix. In this component 17% satisfied all criteria compared to the 83% who did not. The results questioned the validity of measurement methods used to determine the success or failure of an IT Project.

Finally, IT makes the e-govt. concept work. The PMI PMBOK guideline is the world acceptable best PM practices. Its PLC processes are similar with the WS OPLC, project mechanisms and attributes. Thus, the PMI PM practices can be integrated and coordinated with the WS e-govt. and the project tufugas traditional knowledge base to improve future IT projects implementations.

7 Chapter Seven – Discussion

7.1 Introduction

The findings and results of the research methodology have identified key matters hindering successful implementation of the WS e-govt. socioeconomic reforms 1998-2015. New technologies and devices, software and hardware networks and communication and information systems continued to emerge since the last decade. Arguably, to this current time there are no IT or ISs included in the WS ADB e-govt. projects planning and designing. The purpose of this study is to explore and investigate reasons for the ADB not to include the country citizens and IT in the WS e-govt. project planning and designing framework. I also wanted to find out if the PMI project guideline can help the locals implement their IT projects in future. There were four major research questions to answer.

Research Question 1. Are there similarities or differences between WS traditional e-govt. projects and modern IT projects and IT PM tools?

The WS video analysis findings and results revealed a number of similarities between the WS traditional project activities with any other global cultural setting. The core mechanisms of a WS traditional activity/project included information, resources, tools, inputs, outputs, and systems, which are similar to those of the global communities. In addition, the attributes of a traditional Samoan project/activity resembled project attributes of many other cultural settings in that a WS project/activity has a unique purpose, it is temporary (has a definite beginning and end), it is developed using progressive collaboration and requires resources from various areas (natural resources, people, costs etc). All projects including the traditional Samoan projects have a primary sponsor/s or project owner/s who are involved in creating the project plans, monitor and provide directions, fund the project and coordinate work with other stakeholders throughout the entire OPLC. All project managers monitor and manage projects in order to minimize potential risks and increase successful implementation. Constraints such as costs, quality, and uncertainty if not controlled and managed throughout the OPLC may hinder successful implementations. For example; it is difficult to define clear project objectives or estimate how long or how much it may cost to complete implementation of an IT project. Initially, a feasibility study is conducted by gathering information in the early stage of a project to find out whether or not an IT project is feasible to implement. Moreover, like the ten

PMKAs' (PML, 2012) processes inputs, outputs and tools are automatically defined based on the type of product or initiative to be undertaken. Similarly, descriptions of processes in initiating, planning, implementing, monitoring and controlling and closing a project, are determined based on the product and resource requirement. Likewise the PMKAs inputs, outputs, tools and techniques in each process are defined, integrated and transformed into desired outputs using appropriate tools and techniques.

Research Questions 2 & 3: What are core issues and challenges faced by the WS e-govt. project implementations? What are potential CSFs and/or FFs influencing the WS e-govt. projects?

There are a number of issues and challenges faced by the WS e-govt. project implementations. WS has been undergoing continuous social and economic reforms based on public and private products and service rebuilding strategies. In year 1980, WS was heavily influenced by the e-govt. administrative reforms. Also the 1980s brought about the introduction of the 'new public management' reform which focused on building corporate practices and result orientation, until the mid-1990s, when world governments embarked on implementing social and economic e-govt. reforms based on citizen-centric interactive and responsive administration. Arguably, this means that for any government of any country to be successful in reaping the benefits of e-govt., there must be a commitment for investment in IT, manpower and infrastructure. The analysis findings and results supported the notion emphasized by (Misra, February 2007, pp. 3-4) that the concept of e-govt. consists of four equally important components including: e-govt. governance, citizen-centric, e-business and IT and ISs. One of the major problem faced by the WS e-govt. vision involved the exclusion of two important components namely, citizens and IT and ISs.

Prior to the notion of e-govt., WS was an underdeveloped nation until 2003 when the United Nations promoted the island from an underdeveloped to a developing nation. WS has always relied upon resource and financial donations offered by country partner donors such as Japan, China, Australia, NZ, USA and UK, as well as development financial institutions such as the IMF and the WB to assist with the development of sustainable socioeconomic strategies to help improve free trade and eliminate poverty. The WS government social economic reforms partnership with the ADB started from the 1970s, until the late 1990s when WS's e-govt. project relationship with the ADB to the current time began as shown in the forty-five loan documents obtained from the ADB website. This mean that the WS and ADB e-govt.

relationship may have simply continued from the old external country donor partnership agreement notion. The difference is that the relationship between the ADB and WS e-govt. is based on the 'financial money lender v borrower' which means investments and financial aids offered by the ADB are subject to repayment based on the bank's loan terms and conditions. This clearly creates costs, quality, time and risk constraints that impacted on the Samoan stakeholders.

The policies of the ADB allowed for continuity of each project year after year which means that the project stakeholders can reapply for loan extension for each of the 45 projects by simply completing appropriate application forms based on the previous projects and the ADB PLC. The WS project staff simply use previous project loan applications and document templates to reapply for expansion of a project loan. In this manner, the RCA Sample 1 ASB-WS loan documents provided a longitudinal framework for the study which enabled observation in realtime of global organisational change and development, speed diffusion of innovative technological software/hardware and trends, and how they seriously impacted on the WS island's population which indicated the need for IT to facilitate and improve government officials and citizens' interaction using the internet and the www and security applications. Through time the development progressively of e-govt. projects and technology worldwide exploded exponentially, particularly the www, the internet and social networks such as the facebook (Tat-Kei Ho, 2002) which many Samoa individuals both overseas and in Samoa were already enjoying yet, the IT and Citizens were excluded from the ADB-WS e-govt. projects. On the other hand, the continuity nature of all projects also produced inevitable risks to the local Samoan stakeholders (e.g., derelict lands results of project neglect, incomplete projects, undelivered equipment etc). Also the WS e-govt. projects appeared to have been treated as operational activities of the bank rather than e-govt. projects (Projects have a definite beginning and ending timeframe).

The e-govt. projects are complex as they involved implementing a country's socioeconomic reforms. In addition e-govt. may consists of many different types and sizes of business project. Nowadays, manufacturing and industrial and IT ecosystems infrastructure and construction projects have adopted IT, machinery and ISs. For example, in an infrastructure project, detailed engineering design and bidding documents, administration and communication documents etc are prepared, machinery and equipment are procured, and civil

works are constructed and installed. The preparatory work for construction included: recruiting consultants, preparing tender documents and detailed designs, procuring equipment and selecting contractors for construction (ADB., 2014).

The ADB's PLC and PMKAs are based on the economic analytical model and competitive financial investments. Thus the ADB PLC is designed for its financial purposes only and not a wise choice for an e-govt. project-based organisation such as the WS government, who always suffered from scarce resources and financial constraints. The ADB is a financial institution who offered funds for loans and investments thus loan payment terms are calculated based on the bank's financial terms which required repayment by the WS stakeholders. Thus the bank is not a financial donor. The relationship between the WS stakeholders and the ADB is based on 'lender versus borrower'. In reality, the ADB can be seen as purely one of the many stakeholders of the WS projects rather than the PMO for the WS e-govt. projects. Its PLC is not an organic one compared to the PMBOK guideline (PMI., 2012) which is worldwide acceptable PM best practice in which any project manager from any cultural setting including WS project tufugas can use. The WS traditional Project OPLC (initiate, plan, implement, monitor and control and end) also works the same way as the PMI PM guideline however, the difference is that the T-SDM signifies the requirement for IT and ISs.

The units of analysis 'project owners' and 'project location' have identified the major owners of each e-govt. project from the perspective of the WS locals. The ownership of the projects are defined by who the rural/urban landowners and business owners are, who are also the providers of natural resources contributed to the government for initial project requirements. The grievances of the traditional people of WS stemmed from their legal property ownership rights which have been taken over by the projects to construct and build industrial and manufacturing ecosystems and infrastructures. Another serious issue that has affected implementations is displayed in the unending nature of the projects which lead to the failure to manage implementations and lead to the abandonment of projects resulting to incomplete works year after year which in turn have deprived the locals from achieving their goals and expectations.

Another FF impacted on the e-govt. implementations involved the dual project ownership. During the entire project CLC under the ADB, there is lack or no involvement of the WS stakeholders. The ADB website is the main communication channel since 1998 to the current

time, however, there is no IT included in the deliverables which means the WS stakeholders may have a problem accessing the important documents published on the ADB site.

Quality, costs, performance and uncertainties are constraints that seriously impacted implementation of the WS e-govt. projects. Each of the Chinese ERP failed projects, involving four large companies namely: CosmeticCo, PharmaCo, ElectricCo, FurnitureCo, and Stone-Co entailed a host of FFs including language, culture, transactional, differences in ways of doing things, faulty software/ hardware and high costs, is a case in point (Xue, Liang, Boulton, & Snyder, 2005). While acknowledging differences in culture, the Chinese case displayed similar symptoms suffered by the WS e-govt. which involved lack of PM knowledge, lack of understanding and care with regards to the procurement processes which contributed to the failure of all five organisations. Xue et al., (2005) provided a lengthy list of FFs which hindered successful implementation of the four organizations, which were outside of the PMO's control. If the project manager and team do not know the project requirements and specification, or the architecture design and reengineering, as well as the technology infrastructure, then factors damaging the livelihood of the organisation goes back to the beginning of the IT PLC which requires "Identifying the ITOC" refer Chapter 5 subsection 5.6.4. Protocol III RCC. 6X6 Matrix Criteria. However, if these projects were the results of in-house implementations rather than outsource projects, as long as the organisation have internal experienced project managers and project staff to handle IT technical work, this can help minimize implementation failure. On the other hand, if the project manager does not have the required technical skills nor experiences required to oversee and manage IT projects, this can be the fault of the organisation's governance and management for failing to employ a qualified project manager and team members or establish an appropriate PMO to manage the project as in the case of WS e-govt. approach.

The key setback challenging the WS e-govt. current approach involved insufficient IT to facilitate user interactions and effective communications. Generally, any form of IT project including e-govt. can only be made possible with the adoption of IT. In addition, the WS e-govt. approach have not been reviewed and updated to include IT and e-citizens (Misra, February 2007) so that to enable enjoying the benefits offered by the modern PM knowledge such as the PMBOK guideline (PMI., 2012, 2013). E-citizen is an important component of e-

govt. as it helps the e-govt. governance design its daily e-business, e-service operation and functional plans to service citizens' needs and expectations (Misra, February 2007).

Research Question 4: How may the PMKAs processes, tools and techniques help improve the Samoan traditional project managers and e-govt. approach in future?

There are four equally important components of e-govt. namely, the e-govt governance, e-citizens, e-business and information and communication technology (ICT). The concept of e-govt. can benefit each of the components e.g.,:

Benefits to Citizens:

- 1) Products and services are available 24x7(24 hours, 7 days a week)
- 2) Economical (no need for physical visit to an office),
- 3) Fast and efficient service (electronic),
- 4) Transparent (no speed money),
- 5) Equitable (any one can access it), and
- 6) Convenience (can be accessed while on move or at home).

Benefits to E-Business:

- 1) Improve IT Projects Implementations
- 2) Reduced time in setting up new business (reduced red tape),
- 3) Conducting online e-business and e-commerce
- 4) Better conformity to government rules and regulations for running business,
- 5) More convenient and transparent way of doing business with government through e-procurement,
- 6) Better control over movement of goods through online monitoring of clearances.
- 7) Conducting monetary transactions online (e-banking, e-payment).
- 8) Deliver banking services to communities
- 9) Improve logistics and marketing for locals

Benefits to E-Govt. Governance:

- 1) Better policy making and regulations and development functions as result of better and up-to date information,
- 2) Very fast acquisition, storage and retrieval of data leading to better decision-making,
- 3) Better management of government processes,
- 4) Better dissemination of government rules, regulations and activities,
- 5) Better performance in regulatory functions like taxation,
- 6) Better performance in social sectors like education, health and social security, and last but not least,
- 7) Creates the positive image of modern and progressive government (Misra, February 2007) .

Information Technology is the enabler for e-govt. For example, the www. and the internet connect all organisational systems internal and external employees and clients in carrying out transactional inputs and outputs. A required component of any IS is a network 'systems

alignment' which enabled interactions between internal and external employees, clients and customers. Thus, it is critical to build the IT network software/hardware infrastructure to enable alignment of e-govt. strategies to remote rural and urban project locations and external project communities to improve interactions. In the age of Information Society, scarcity of resources is a real problem (Grey, 2013c). Thus, governments of countries have attempted to transform their information resources by putting monetary value on to them which allowed for global information exchange and sharing (Grey, 2013c). Further, the application of the term "Change" is parallel to the definition of "Information Society" which means to capture the entire cultural physical setting and environmental data, convert them into intelligent information ICT-Service based-products, thus putting value back into the information resource pool. In addition, technology and information are inseparable, thus the two are envisaged as the innovative substitution for the diminishing natural resources. Hence, countries are converting traditional systems into smart information and ICT products and services to become available shareable valuable resource pooling assets for national and global communities to help maintain and enhance socioeconomic growth and well-being (Grey, 2013c).

In his research which was conducted in India (2010) examines the significance of 'Systems Alignment' and suggests CSFs for better IT absorption, assimilation, as well as proliferation. While modern e-business operations and functions of the large-sized public sector undertakings are of key importance in India, systems alignment appeared to be the key factor hindering successful operations (Aggarwal, 2010). In responding to challenges driving e-health care organisations in USA (2005) conducted an organisational diagnostic evaluation which involved gathering information using qualitative and quantitative data collection methods such as interviews, surveys etc. The purpose is to ensure that valid data needed for operational and functional transactions are captured from the environment to design and reconstruct the organisation's database conceptual and logical models (Coronel et al., 2011). Significant to the success of the new system, is the identification of ITOC and the appropriate strategic solution, the type of project, and the appointment of the PMO with collaborative applications which contributed to the success of the e-health project. In addition, identifying appropriate linkages to the e-medical web uniform resource locator (URL) and the web of players networks was crucial to the success of the organisation's operations (Wickramasinghe & Goldberg, 2005). The systems design defined and determined the best solution for the e-health IS alignment

framework which allowed for better communications and interactions between internal/external users and customers. Thus, a successful systems alignment solution is underpin by the design architecture, reengineering, IT and IS networks software/hardware infrastructure, and a deployment plan (Wickramasinghe & Goldberg, 2005). Critical to the success of the new e-Healthcare model was the strategic leveraging of existing organisational systems and resources to the new strategic solution aimed to minimize costs. It was also important to know and understand who the organisation's internal and external web of players for the new system are, since its architecture required connecting all networks to manage and monitor system security, usability and scalability. Moreover, identifying organisational transactions allowed for identification of specific systems specifications and modelling. In general, it is crucial during the architecture and reengineering design to identify and create an appropriate system that can withstand the size, geographical, demographic, insurance; patient information and ethical privacy approach to patients' information and legal compliances characteristics (Wickramasinghe & Goldberg, 2005).

Identifying a systems' challenges at the early stage of the project CLC enabled the project manager and project teams to identify problems that matter and are within the control of the PM and his team and/or the PMO (Wickramasinghe & Goldberg, 2005). This means that all other problems that may arise from an IT project implementation are those that are under the control of the organisation's governance and management. The authors also identified past problems of the traditional SDLC model and developed their modified iterative SDLC model which demonstrated applications of the PM knowledge areas, processes, inputs, outputs and appropriate tools and techniques.

Finally, the study's Protocol III. RCC. 6X6 Matrix for IT projects provides a solution to help organisations implement any size of IT projects (*see chapter 5 sub section 5.6.4*). The RCC Matrix assumed that the PMO or an experienced project manager and project staff have been hired by the organisation to oversee and manage their IT projects implementations. The PMO's responsibilities are centralized and coordinated under its domain (J. Ward & Daniel, 2013). In addition, responsibilities of the PMO ranged from providing project management support functions to being responsible for the direct management of a project throughout the PLC. The 6X6 matrix also provides a guideline aimed to help organisations identify and determine problems or opportunities affecting the business and decide upon the best strategic

solution to improve organisation's system performance. Finally, this study is about how to implement IT business projects, thus the *6x6 matrix* provides a simple method for determining CSF and/or FFs influencing implementation of IT projects. If the PMO or an experienced project manager and project staff have been hired, then the CSFs and FFs may fall under its domain. However, if the IT project was done in-house by the organisation's staff members, the CSFs and FFs fall under the domain of the project manager and staff of the OGAM.

7.2 Summary

The WS concept of e-govt. consists of 4 equally important components: the WS e-governance, citizen-centric, e-business and IT and ISs. The WS-ADB e-govt. projects have been implemented from 1998 to the current time. The WS e-govt. projects plans have omitted the citizens and IT and ISs from all its 45 ADB projects. The e-govt. projects are large complex types of projects which required collaboration and communication with other nation's project stakeholders. The continuity nature of the e-govt. projects have made the WS government a project-based organisation. Worldwide, many business aspects of manufacturing, industrial and construction businesses have been transformed successfully into IT projects which means that IT and ISs should have been included in the WS e-govt. projects design from the early stages of the relationship to improve interactions and communications. E-govt. business solutions involved planning and designing of many types of business plans which required the expertise of a project manager and staff or an appropriate PMO. Overall, the WS government would have been better off if it independently set up its own PMO to manage and control its e-govt. projects and to conduct procurement negotiations with the ADB and other suppliers. The PMI PMBOK guideline provides approved generic and technical IT disciplines that are worldwide acceptable PM practices that any project manager in any global cultural setting can use. Worldwide, projects are the main vehicles used by governments and businesses to implement organisational changes and e-govt. reforms. Thus a knowledge of the PMI PMKAs can help all components of the WS e-govt. enjoy the benefits offered by the e-govt. concept. Finally, the study's Protocol III. RCC. 6X6 Matrix for IT projects provides a solution to help organisations implement any size of IT projects.

8 Chapter 8. Conclusion, Recommendations & Future Work

8.1 Introduction

Chapter 8 reviews the entire thesis to ensure that each chapter has achieved the study's purpose, rational, goals, objectives and answered four major research questions. The study structure consists of 8 chapters and each of them deals with highlighted different aspects of the study. There are four equally important components of the WS e-govt. concept namely, e-govt. governance, e-citizens, e-business and ICT. There is a lack of scientific information focusing on the WS e-govt. experiences. Thus the study depended on anecdotal evidences as well as unobserved sparse online documents gathered from various websites. Grey's (2014-2016) (author of this paper) contribution to the academic research scientific knowledge are listed below:

- a) Research Conceptual Framework *Figure 1 Chapter 1.*
- b) Theory V = Samoa Village People *Chapter 1&2.*
- c) E-Govt. Conceptual Mindmap *Chapter 1.*
- d) Definition of Project *Chapter 2.*
- e) WS Village Governance Structure *Chapter 3.*
- f) WS Context shared Information *Chapter 3.*
- g) Proposed PM SDM SDLC-PLC Model *Chapter 4.*
- h) The Research Methodology. Content Analysis Model *Chapter 5.*
- i) RCA. Protocol.1. Form I. Information Collection *Chapter 5.*
- j) RCB. Protocol II. Form 2 Information Collection *Chapter 5.*
- k) RCC. 6X6 Matrix. IT Projects CSFs/FFs *Chapter 5.*

Chapter one is introductory. The purpose of this empirical study is to explore and investigate why the IT was always excluded from the WS e-govt. project context, and to find out how the PMI PMBOK guideline and applications may help improve the Samoan tufugas projects/activities and e-govt. project implementations in future.

The theme of the study was set up to marry the concepts of IT, IT Projects and IT Project Management and Tools and the WS IT project context interactions. The research problem emphasised on the exclusion of IT and ISs from the WS e-govt. projects with the ADB. The

literature review which is *chapter 2* explored themes and theories highlighted in the study's topic to generate more knowledge and understanding of the terminologies driving this empirical research.

The study rationale is to find out how the PMI PMBOK guideline can be integrated and coordinated into the WS traditional village projects and the WS e-govt. approach to help improve future IT project implementations.

The research problem argued that the FFs hindering succesful implementation of the WS e-govt. projects involved the exclusion of citizens and IT and ISs from the WS-ADB e-govt. major and sub-projects' requirements. The traditional village project communities are not connected to the government information society architecture portal interface to enable interaction for public service consumption.

The five research objectives included: (1) To determine differences or similarities between WS traditional projects and modern IT projects and IT PM Tools; (2) To determine issues and challenges faced by the WS e-govt. projects; (3) To determine CSFs and FFs that may hinder WS IT projects successful implementation; (4) To explore ways IT PMBOK processes and disciplines may help improve the WS tufugas' projects and e-govt. approach in future.

There are four major empirical research questions including: (1) Are there similarities or differences between WS traditional e-govt. projects, modern IT projects and IT PM tools? (2) What are the issues faced by the WS e-govt. project implementations? (3) What are potential IT projects CRS and/or FFs influencing the WS e-govt. projects? and (4) How may the PMI PMKAs processes, tools and techniques help the Samoan traditional project managers and e-govt. project/activities in future?

The qualitative content analysis mixed method is a flexible analytical tool for analysing large amounts of data. The WS e-govt. projects involved complex business pehnomena and a large sample of people from national and international levels. In addition, the study's chosen data sources represent immense amounts of data required for the research methodology. The qualitative content analysis mixed method is used to analyse WS ADB project loan documents from 1998 to 2015, Videos of e-govt. projects from 2009-2012, and selected studies in the field of IT projects CSFs and FFs.

Chapter 2 reviewed the literature to find out what has already been done and what gaps exists in the literature to help set the direction for this research. It was discovered that the WS e-govt. approach produces unknown gaps to the literature although many researchers and commentators in different academic fields have contributed much relevant knowledge particularly on IT projects, project, management, PM, IT projects CSFs and FFs.

Chapter three contributed to the study information pertinent to the Samoan and ADB e-govt. project experiences. It introduced a host of anecdotal evidence concerning Pacific Island e-govt. approach. It explored the WS e-govt. IT projects context based on social and economic reforms in relations with the ADB.

Chapter four explored and discussed in detailed the PMI PMKAs and processes which are major datasources and units of analysis for this paper.

In *Chapter five*, the research methodology is the qualitative content analysis which consists of four main phases namely:the preparation phase, the organising phase, the making sense of the data phase; and the reporting phase. Data collection method used is the qualitative method depending on the needs of the content analysis. The purposive sample was utilized by the study. The total sample for the analysis included 367 ADB documents, 21 videos, and 441 CSF and FFs taking the total sample to 829 textual data. The research divided, categorized and coded the research sample into three components including: (1) RCA. The WS-ADB e-govt. projects; (2) RCB. Video-WS e-govt. projects; and (3) the RCC. IT projects CSFs and FFs. The PMKAs and disciplines were used to develop three different protocols to analyse and test each component.

Chapter six reported the findings and results of each of the three components of the research while *chapter seven* discussed the research findings and results in detail.

8.2 Conclusion

Chapter 8 concluded that, “e-govt.” can only be made possible if and when the WS Government is prepared to invest funds and resources in IT and its citizens. In the main, WS e-govt. projects will continue to face many challenges in the future until its e-govt. approach is reviewed and updated/modify to include: the e-citizens and IT/IS components as well as the IT PM tools. In addition, when designing and implementing e-govt. sites, the government must consider appropriate elements of policies, including regulatory issues, economic issues, and

the rights of users, transactions and security. Since the e-govt. and IT trends continued to develop and grow exponentially, the WS government must adopt the proposed models offered by this paper.

8.3 Recommendation

It is recommended that:

- The government of WS must immediately review and modify its e-govt. approach to include the country's citizens, IT/ISs and applications and Project Management disciplines.
- The government of WS is a project-based organisation, thus it is important for the government to share its e-govt. project implementations with an appropriate PMO or hire experienced project managers and project staff to take over the load of technical PM duties, conduct and manage project legal matters such as procurement, negotiations and public relations with interested IT vendors and investors.
- The traditional project managers and e-govt. officials need to learn to adopt the PMI PMBOK guideline, integrate and coordinate the modern PM knowledge with the traditional IK and skills to help improve traditional projects/activities and e-govt. future implementations.

8.4 Future Work

This study only touched on the fundamentals of IT projects in particular e-govt. approach for small underdeveloped or developing Pacific Island Nations. There is a need for further work on the Pacific Island e-govt. approach. The WS government is now functioning as a major government executive business unit and a service provider without its citizens. E-govt. has the potential to alter the traditional relationship between government and citizens by creating a new virtual government and citizen portal interface (Wong & Welch, 2004). Finally, *table 31* provides suggestions for future work to improve WS and Pacific Island Nations future e-govt. project implementations.

Table 27. Suggested Future Work

No	Suggested Future Work For WS and Pacific Island Nations
1	Setting up a PMO office,
2	Integrating and coordinating the Traditional IK with IT PMKAs processes, tools & Applications
3	E- government Projects IT/ISs alignment and applications
4	E-government IT Projects for Socioeconomic reforms for Pacific Island Nations
5	E-government IT Projects WBS
6	Designing e-government Projects Deliverables,
7	Scope, WBS and outsourcing,
8	Elements of a good PMO for e-government Projects,
9	E-government IT/IS Hardware/Software and network infrastructure
10	Effective PM Systems Design architecture, reengineering,deployment and assimilation planing
11	E-government Procurement and Negotiation
12	Elements of e-government policy, including regulatory issues, economic issues, and the rights of users.
13	Building effective e-Government business cases,
14	Developing and maintaining a citizen focus
15	Security/ Future Support and Maintenance

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10 Appendices

10.1 Figure 1- Ethics Approval



25/06/2014

Leutele Lucia Maria Grey
38 Mahinawa Street
Elsdon
Porirua

Dear Ms Leutele Grey

The Faculty of Business and Information Technology Board of Studies of Whitireia New Zealand met on May 9th 2014 to consider your application to proceed with your research project entitled:

Western Samoa Context: Theory V - Applied Information Technology Project Management Tools

The Board has approved the research project for your Master of Information Technology IT9502 Thesis. This project has been assessed as of low ethical risk and you can now proceed as planned in your research project proposal.

Please insert this letter as an appendix into your thesis.

We look forward to a successful thesis submission in early 2015.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Sue Chard'.

Dr Sue Chard
Programme Manager
Information Technology Programmes
Faculty of Business and Information Technology
Whitireia Community Polytechnic (Porirua Campus)

10.2. Table 1 - Definitions of IT

Year	Definition IT	Title of Research	Author
1995	computer software and hardware solutions which provide support for organisation management, operations and strategists	CEO characteristics, organizational characteristics and information technology adoption in small business	Thong, J. Y. L. & C. S. Yap (1995).
1997	Those technologies that are engaged in the operation, collection, transportation, retrieving, storage, access, presentation, and transformation of information in all its form or aspects of Information systems	Strategic thinking for Information technology. How to build the IT organisation for the Information age	Boar, B. H. (1997).
2002	Links through electronic data interchanges, computer-to-computer links with key suppliers and systems of information	The relationship between It user and buyer – supplier relationship	Carr, A. S. & Smeltzer, L.R. (2002).
2003	All technologies used by organisations from collecting and disseminate information in all its forms: components of IT include language, office application hardware, software etc.	The strategy for adopting IT for SMEs. Experiencing in adopting email within an Indonesia furniture company	Sarosa, S. & D. Zowgh, D. (2003).
2003	Capabilities offered to organisations by computers, software applications and telecommunications to deliver data, information and knowledge to individuals and processes	IT and business process redesign	Attaran, M. (2003).
2009	Applications of ICT technologies tools including computer networks, software and hardware required for internet connections	Internet-based ICT adoption. Evidence from Malaysian SME's Industrial and management	Tan, K. S., & Chong, S.C. (2009).

Onn, C. W., & Sorooshian, S. (2013). Mini Literature Analysis on Information Technology Definition. *Information & Knowledge Management* (2224-896X), 3(2).

10.3. Table 2. RC1 Analysis Form ADB WS E-govt Projects

NO	Code	Category: ADB-WS E-Government Projects Evaluation and Analysis - Research Protocol I	Level 1	Level 2	Level 3	Level 4	Level 5
			Organisational Change	IT/IS	Project Management Knowledge Area	Inputs/Outputs	CSFs/FFs
1	PI E-Govt	Promoting economic use of customary Land-Phase II					
2	PI E-Govt	Promoting Economic Use of Customary land Phase III-TA					
3	PI E-Govt	Private Sector Development Project					
4	PI E-Govt	Samoa AgriBusiness Support Project					
5	PI E-Govt	Schoolnet and Community Access Project					
6	PI E-Govt	Public Sector Financial management Program					
7	PI E-Govt	Renewable energy Project					
8	PI E-Govt	Community Sanitation Report					
9	PI E-Govt	Economic recovery support program sub-program 2					
10	PI E-Govt	Water supply sanitation drainage project					
11	PI E-Govt	Preparing the Afulilo environmental enhancement TA					
12	PI E-Govt	Sanitation and Drainage Project					
13	PI E-Govt	Sanitation and Drainage Project					
14	PI E-Govt	Sanitation and Drainage Project supplementary Loan					
15	PI E-Govt	Economic recovery support Program (subprogram 1) Loan					
16	PI E-Govt	Preparing the Power sector expansion Program					
17	PI E-Govt	SAM Samoa Venture capital Fund					
18	PI E-Govt	Small Business Development					
19	PI E-Govt	Implementation strategy Development for Samoa					
20	PI E-Govt	Small business development					
21	PI E-Govt	Implementation of the Public Finance Management Act					
22	PI E-Govt	Promoting economic use of customary land					
23	PI E-Govt	Afulilo Hydropower Project.					
24	PI E-Govt	Privatization support					
25	PI E-Govt	Strengthening SOE corporate Governmance					
26	PI E-Govt	Samoa SchoolNet and community access pilot project					
27	PI E-Govt	Preparing the education policy and strategic plan 2006-2014					
28	PI E-Govt	Building of Financial and Business Advisory intermediaries					
29	PI E-Govt	Education Sector Project II					
30	PI E-Govt	Eduation Sector Project					
31	PI E-Govt	Education Sector Project II					
32	PI E-Govt	Preparing the Savaii Renewable Energy Project					
33	PI E-Govt	Develop and Impleent Proverty Management Strategy					
34	PI E-Govt	Educaion Sector Support					
35	PI E-Govt	Planning and Urban Management Agence (PUMA					
36	PI E-Govt	Energy sector Development					
37	PI E-Govt	Government SOE reforms					
38	PI E-Govt	Government in the management of the financial sector reform					
39	PI E-Govt	Urban Sector Development					
40	PI E-Govt	Macroeconomic Analysis Govt					
41	PI E-Govt	Energy Sector Development					
42	PI E-Govt	Education Sector					
43	PI E-Govt	Preparation of Economic Report in the Pacific Economy					
44	PI E-Govt	Economic and Public Affairs Management					
45	PI E-Govt	Water Sypply sanitation and Drainage Project					

10.4. Table 3. RCA. Analysis WS-ADB Projects 1998-2014

CONTENT ANALYSIS - SAMOA ADP PROJECTS 1998-2014											
	Systems Development life Cycle	←	Sys Planning	Sys Analysis	Sys Design	Sys Implement	Supp&Security	→			
	Project Management Knowledge Area and Processes	Integration	Scope	Time	Cost	Quality	HRM	Communication	Risk	Procurement	Stakeholders
	Project Life cycle Phases	←	Initiation	Planning	Execution	Monitor&Con	Closure	→	→		
No	IT PM Tools and Techniques	Tools & Tech	Tools&Tech	Tools & Tech	Tools & Tech	Tool&Tech	Tools&Tech	Tools&Tech	Tools & Tech	Tools&Tech	Tools & Techs
1	Samoa Projects	√	√	√	√	√	√	√	√	√	√
2	Agriculture support	√	√	√	√	√	√	√	√	√	√
3	Renewable Energy Development 002	√	√	√	√	√	√	√	√	√	√
4	Economic use of land, Phase 111	√	√	√	√	√	√	√	√	√	√
5	Public Sector Financial Management	√	√	√	√	√	√	√	√	√	√
6	Renewable Energy Development 001	√	√	√	√	√	√	√	√	√	√
7	Private Sector Development	√	√	√	√	√	√	√	√	√	√
8	Private Sector Development	√	√	√	√	√	√	√	√	√	√
9	Community sanitation Project	√	√	√	√	√	√	√	√	√	√
10	Economic Recovery Support (2)	√	√	√	√	√	√	√	√	√	√
11	Economic Recovery Support(1)	√	√	√	√	√	√	√	√	√	√
12	Economic use of land, Phase 11	√	√	√	√	√	√	√	√	√	√
13	Earthquake and Tsunami Responses Project	√	√	√	√	√	√	√	√	√	√
14	Water Supply, sanitation and drainage	√	√	√	√	√	√	√	√	√	√
15	Sanitation and drainage project	√	√	√	√	√	√	√	√	√	√
16	Prepare Afulilo environment Enhancement	√	√	√	√	√	√	√	√	√	√
17	Formulation and Implementation Strategy Samoa	√	√	√	√	√	√	√	√	√	√
18	Schoolnet and community Access Project	√	√	√	√	√	√	√	√	√	√
19	Power Sector expansion Project	√	√	√	√	√	√	√	√	√	√
20	SchoolNet and Community Access Pilot Project	√	√	√	√	√	√	√	√	√	√
21	Preparing the Power Sector And Energy Reform Projects	√	√	√	√	√	√	√	√	√	√
22	Education Project 11	√	√	√	√	√	√	√	√	√	√
23	Promoting use of customary lands -mobile and security	√	√	√	√	√	√	√	√	√	√
24	Strengthening SOE Coreporate Governance	√	√	√	√	√	√	√	√	√	√
25	Prepare Education Policy and Strategic Plan 2006-2014	√	√	√	√	√	√	√	√	√	√
26	Privatization support	√	√	√	√	√	√	√	√	√	√
27	Education sector Project 11	√	√	√	√	√	√	√	√	√	√
28	Sanitation and drainage project	√	√	√	√	√	√	√	√	√	√
29	Implementation Public Finance Management Act	√	√	√	√	√	√	√	√	√	√
30	Preparing Savsaii Renewable energy Project	√	√	√	√	√	√	√	√	√	√
31	Economic Sector Planning and Management	√	√	√	√	√	√	√	√	√	√
32	Capacity building Planning and Urban Management Agency (PUMA)	√	√	√	√	√	√	√	√	√	√
33	Institutional Strengthening electric Power corporation	√	√	√	√	√	√	√	√	√	√
34	Loss Assessment for Electricity Power Corporation	√	√	√	√	√	√	√	√	√	√
35	Devdevelopment of Non banking financial Institution	√	√	√	√	√	√	√	√	√	√
36	Household Income Survey for Poverty Assessment	√	√	√	√	√	√	√	√	√	√
37	CP, BLDG IN HST & URBAN MGT	√	√	√	√	√	√	√	√	√	√
38	Capacity building Financial & Business Advisory Intermediaries	√	√	√	√	√	√	√	√	√	√
39	Small Business development	√	√	√	√	√	√	√	√	√	√
40	SAM Samoa venture capital fund	√	√	√	√	√	√	√	√	√	√
41	Education Sector Project	√	√	√	√	√	√	√	√	√	√
42	Education Sector Support Project	√	√	√	√	√	√	√	√	√	√
43	Strengthen Capacity: Macroecon.analysis, Planning&Pol formulation	√	√	√	√	√	√	√	√	√	√
44	Small Business development	√	√	√	√	√	√	√	√	√	√
45	Education Sector	√	√	√	√	√	√	√	√	√	√
46	Electric Power corp.Finance and Management Action Plan	√	√	√	√	√	√	√	√	√	√
47	Samoa Economic Report	√	√	√	√	√	√	√	√	√	√
48	Evaluation of Sewage Treatment Options	√	√	√	√	√	√	√	√	√	√
49	Financial sector Program	√	√	√	√	√	√	√	√	√	√
50	Strengthening of Govt Financial Institutions Programs	√	√	√	√	√	√	√	√	√	√
51	Strength Macro Policy and Planning Capacity (Phase 111)	√	√	√	√	√	√	√	√	√	√

10.5. Table 4. RCA. Analysis. Project Data Sheets

<i>PROJECT DATA SHEET ANALYSIS</i>						
<i>No</i>	<i>Variables</i>	<i>Phase 1 CPS Tools</i>	<i>Phase 2 Preparation Tools</i>	<i>Phase 3 Approval Tools</i>	<i>Phase 4 Implementation Tools</i>	<i>Phase 5 Completion Tools</i>
1	<i>Project Fact Sheets</i>	√	√	√	√	√
2	<i>Project Fact Sheets</i>	√	√	√	√	√
3	<i>Project Fact Sheets</i>	√	√	√	√	√
4	<i>Project Fact Sheets</i>	√	√	√	√	√
5	<i>Project Fact Sheets</i>	√	√	√	√	√
6	<i>Project Fact Sheets</i>	√	√	√	√	√
7	<i>Project Fact Sheets</i>	√	√	√	√	√
8	<i>Project Fact Sheets</i>	√	√	√	√	√
9	<i>Project Fact Sheets</i>	√	√	√	√	√
10	<i>Project Fact Sheets</i>	√	√	√	√	√
11	<i>Project Fact Sheets</i>	√	√	√	√	√
12	<i>Project Fact Sheets</i>	√	√	√	√	√
13	<i>Project Fact Sheets</i>	√	√	√	√	√
14	<i>Project Fact Sheets</i>	√	√	√	√	√
15	<i>Project Fact Sheets</i>	√	√	√	√	√
16	<i>Project Fact Sheets</i>	√	√	√	√	√
17	<i>Project Fact Sheets</i>	√	√	√	√	√
18	<i>Project Fact Sheets</i>	√	√	√	√	√
19	<i>Project Fact Sheets</i>	√	√	√	√	√
20	<i>Project Fact Sheets</i>	√	√	√	√	√
21	<i>Project Fact Sheets</i>	√	√	√	√	√
22	<i>Project Fact Sheets</i>	√	√	√	√	√
23	<i>Project Fact Sheets</i>	√	√	√	√	√
24	<i>Project Fact Sheets</i>	√	√	√	√	√
25	<i>Project Fact Sheets</i>	√	√	√	√	√
26	<i>Project Fact Sheets</i>	√	√	√	√	√
27	<i>Project Fact Sheets</i>	√	√	√	√	√
28	<i>Project Fact Sheets</i>	√	√	√	√	√
29	<i>Project Fact Sheets</i>	√	√	√	√	√
30	<i>Project Fact Sheets</i>	√	√	√	√	√
31	<i>Project Fact Sheets</i>	√	√	√	√	√
32	<i>Project Fact Sheets</i>	√	√	√	√	√
33	<i>Project Fact Sheets</i>	√	√	√	√	√
34	<i>Project Fact Sheets</i>	√	√	√	√	√
35	<i>Project Fact Sheets</i>	√	√	√	√	√
36	<i>Project Fact Sheets</i>	√	√	√	√	√
37	<i>Project Fact Sheets</i>	√	√	√	√	√
38	<i>Project Fact Sheets</i>	√	√	√	√	√
39	<i>Project Fact Sheets</i>	√	√	√	√	√
40	<i>Project Fact Sheets</i>	√	√	√	√	√
41	<i>Project Fact Sheets</i>	√	√	√	√	√
42	<i>Project Fact Sheets</i>	√	√	√	√	√
43	<i>Project Fact Sheets</i>	√	√	√	√	√
44	<i>Project Fact Sheets</i>	√	√	√	√	√
45	<i>Project Fact Sheets</i>	√	√	√	√	√
46	<i>Project Fact Sheets</i>	√	√	√	√	√
47	<i>Project Fact Sheets</i>	√	√	√	√	√
48	<i>Project Fact Sheets</i>	√	√	√	√	√
49	<i>Project Fact Sheets</i>	√	√	√	√	√
50	<i>Project Fact Sheets</i>	√	√	√	√	√
51	<i>Project Fact Sheets</i>	√	√	√	√	√
52	<i>Project Fact Sheets</i>	√	√	√	√	√
53	<i>Project Fact Sheets</i>	√	√	√	√	√
54	<i>Project Fact Sheets</i>	√	√	√	√	√
55	<i>Project Fact Sheets</i>	√	√	√	√	√
56	<i>Project Fact Sheets</i>	√	√	√	√	√
57	<i>Project Fact Sheets</i>	√	√	√	√	√
58	<i>Project Fact Sheets</i>	√	√	√	√	√

10.6. Table 5.RCA. Analysis WS-ADB Loan Data Sheets

CONTENT ANALYSIS - SAMOA ADP PROJECTS 1998-2014											
No	Systems Development life cycle Project Management Knowledge Area and Processes Project Life cycle Phases IT PM Tools and Techniques	Integration Tools & Tech	Sys Planning Scope Initiation Tools&Tech	Sys Analysis Time Planning Tools & Tech	Sys Design Cost Execution Tools & Tech	Sys Implement Quality Monitor&Con Tool&Tech	Supp&security HRM Closure Tools&Tech	Communication Risk Tools&Tech	Procurement Tools&Tech	Stakeholders Tools & Techs	
1	Samoa Projects	V	V	V	V	V	V	V	V	V	V
2	Agriculture support	V	V	V	V	V	V	V	V	V	V
3	Renewable Energy Development 002	V	V	V	V	V	V	V	V	V	V
4	Economic use of land, Phase 11	V	V	V	V	V	V	V	V	V	V
5	Public Sector Financial Management	V	V	V	V	V	V	V	V	V	V
6	Renewable Energy Development 001	V	V	V	V	V	V	V	V	V	V
7	Private Sector Development	V	V	V	V	V	V	V	V	V	V
8	Private Sector Development	V	V	V	V	V	V	V	V	V	V
9	Community sanitation Project	V	V	V	V	V	V	V	V	V	V
10	Economic Recovery Support (2)	V	V	V	V	V	V	V	V	V	V
11	Economic Recovery Support(1)	V	V	V	V	V	V	V	V	V	V
12	Economic use of land, Phase 11	V	V	V	V	V	V	V	V	V	V
13	Earthquake and Tsunami Responses Project	V	V	V	V	V	V	V	V	V	V
14	Water supply, sanitation and drainage	V	V	V	V	V	V	V	V	V	V
15	Sanitation and drainage project	V	V	V	V	V	V	V	V	V	V
16	Prepare Afulife environment Enhancement	V	V	V	V	V	V	V	V	V	V
17	Formulation and Implementation Strategy Samoa	V	V	V	V	V	V	V	V	V	V
18	Schoolnet and community Access Project	V	V	V	V	V	V	V	V	V	V
19	Power Sector expansion Project	V	V	V	V	V	V	V	V	V	V
20	SchoolNet and Community Access Pilot Project	V	V	V	V	V	V	V	V	V	V
21	Preparing the Power Sector And Energy Reform Projects	V	V	V	V	V	V	V	V	V	V
22	Education Project 11	V	V	V	V	V	V	V	V	V	V
23	Promoting use of customary lands - mobile and security	V	V	V	V	V	V	V	V	V	V
24	Strengthening SOE Corporate Governance	V	V	V	V	V	V	V	V	V	V
25	Prepare Education Policy and Strategic Plan 2006-2014	V	V	V	V	V	V	V	V	V	V
26	Privatization support	V	V	V	V	V	V	V	V	V	V
27	Education sector Project 11	V	V	V	V	V	V	V	V	V	V
28	Sanitation and drainage project	V	V	V	V	V	V	V	V	V	V
29	Implementation Public Finance Management Act	V	V	V	V	V	V	V	V	V	V
30	Preparing Savaii Renewable energy Project	V	V	V	V	V	V	V	V	V	V
31	Economic Sector Planning and Management	V	V	V	V	V	V	V	V	V	V
32	Capacity building Planning and Urban Management Agency (PUMA)	V	V	V	V	V	V	V	V	V	V
33	Institutional Strengthening electric Power corporation	V	V	V	V	V	V	V	V	V	V
34	Loss Assessment for Electricity Power Corporation	V	V	V	V	V	V	V	V	V	V
35	Development of Non banking financial Institution	V	V	V	V	V	V	V	V	V	V
36	Household Income Survey for Poverty Assessment	V	V	V	V	V	V	V	V	V	V
37	CP, BLDG IN HST & URBAN MGT	V	V	V	V	V	V	V	V	V	V
38	Capacity building Financial & Business Advisory Intermediaries	V	V	V	V	V	V	V	V	V	V
39	Small Business development	V	V	V	V	V	V	V	V	V	V
40	SAM Samoa venture capital fund	V	V	V	V	V	V	V	V	V	V
41	Education Sector Project	V	V	V	V	V	V	V	V	V	V
42	Education Sector Support Project	V	V	V	V	V	V	V	V	V	V
43	Strengthen Capacity: Macrocom. analysis, Planning&Pol formulation	V	V	V	V	V	V	V	V	V	V
44	Small Business development	V	V	V	V	V	V	V	V	V	V
45	Education Sector	V	V	V	V	V	V	V	V	V	V
46	Electric Power corp. Finance and Management Action Plan	V	V	V	V	V	V	V	V	V	V
47	Samoa Economic Report	V	V	V	V	V	V	V	V	V	V
48	Evaluation of Sewage Treatment Options	V	V	V	V	V	V	V	V	V	V
49	Financial sector Program	V	V	V	V	V	V	V	V	V	V
50	Strengthening of Govt Financial Institutions Programs	V	V	V	V	V	V	V	V	V	V
51	Strengthen Macro Policy and Planning Capacity (Phase 11)	V	V	V	V	V	V	V	V	V	V

10.7. Table 6. RCB. Analysis-Video Samoa E-Govt Projects

No	Code	Analysis Component II. Video Samoa E-Government Projects	Level 1	Level 2	Level 3	Level
		Protocol II.	General Information	Type of Project	Information Technology	CSFs & FFs
1	P2 E-Govt	Water Management in Samoa (Masters Final Project), Azarel Mariner				
2	P2 E-Govt	The Samoan Way				
3	P2 E-Govt	WIBDI Coconut Oil Production				
4	P2 E-Govt	WIBDI Virgin Coconut Oil in Samoa				
5	P2 E-Govt	WIBDI Organic Farming in Samoa				
6	P2 E-Govt	Rebuilding Samoa Salani Surf Resort				
7	P2 E-Govt	Ray Mears' World Of Survival S01E04 - Savaii, Western Samoa				
8	P2 E-Govt	Roadside Produce Markets				
9	P2 E-Govt	The return of giant clam -				
10	P2 E-Govt	Samoa Education				
11	P2 E-Govt	Tofiga o Pili A'au - Community Based Climate Change Adaptation in Samoa				
12	P2 E-Govt	Changing the world one banana at a time				
13	P2 E-Govt	Apia Fresh Produce Markets, Samoa (1080HD)				
14	P2 E-Govt	Samoa Clam Intro,				
15	P2 E-Govt	Samoa Micro Fiance				
16	P2 E-Govt	SPBD in Action				

10.8. Table 7. RCB. Analysis-CSFs

No	IT Projects Success Factors: Components I and II	Integration	Scope	Time	Cost	Quality	HRM	Communic	Risk	Procure	/Holder	Technical
276	Project Life Cycle											
277	Information systems											
278	Financial Institution Control and Management											
279	Outsourcing											
280	Multiprojects and multifield											
281	Control of Decision Making Processes											
282	Business Opportunities											
283	Technical Assistance Availability to hire contractors											
284	Internal Benefits for organisation											
285	Project Ownership and control											
Note: These PSFs are based on the Project Management Office Criteria differ.												

10.9. Table 8.RCB. Analysis CSFs/FFs

No	IT Projects FFs: Components I and II	Integration	Scope	Time	Cost	Quality	HRM	Communic	Risk	Procure	S/Holder	Technical
	Component I											
122	Project Ownership Issues											
123	Automatic updating of applications to maintain continuity in implementation.											
124	Financial Institution Takeover											
125	Inefficient Involvement of Client Country Stakeholders											
126	Outdated e-government IT approach											
127	Costs, Quality, Time, Billing and Loan Repayment constraints											
128	Poor Communication strategies – IT, and No Alignment											
129	High costs of bank Technical Assistance											
130	High costs of Outsourcing, Procurement, Deliverables											
131	Unclear project requirements and specifications											
132	No architecture and reengineering design											
133	No Information Systems design for alignment											
134	In complete Projects											
135	Technological and ecosystems infrastructure											
136	Deficiencies issues arising from the deliverables											
137	Project Manager and Team, PM Life Cycle											
138	Issues arising from unpaid loan repayments											
139	The nature of multi-projects and multi-field projects											
	Component II											
140	Insufficient information about the project											
141	No information systems, no systems Alignment											
142	Incomplete projects, lack of sector participation											
143	Uncertainty, due to lack of communication											
144	No funds available to maintain the manual systems											
145	Lack of awareness about the related IT deliverables											
146	Non availability of documentations and reporting											
147	People are encouraged to increase entrepreneurship, small business undertakings and marketing skills.											
148	Availability of Micro-Finance and applications											
Note: These PSFs are based on the Project Management Office Criteria.												

10.10. Table 9.RCB. Analysis Video WS e-Govt. Projects

Western Samoa E-Government Project - Video Analysis												
	SDLC	PM	Sys			PM	IT	IT	Tools	IT	IT	Type of
P No.	Phases	PLC	Alignment	PMKA	Language	Processes	Inputs	Outputs	Techniques	System	Users	Video
P1	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P2	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P3	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P4	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P5	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P6	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P7	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P8	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P9	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P10	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P11	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P12	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P13	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P14	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
P15	X	X	X	√	English/Samoa	Traditional	X	X	Traditional	X	X	Narrated
Refer to the Analysis Component I Analysis for further information.												
Key: X=None, √= Yes Project Staff demonstrated understanding of the Project being undertaken												

10.11. Table 10. RCC. CSFs & FFs by Author

No	Code	Analysis Component III. IT Projects CSFs/FFs Protocol III	Project Management Office								
			IT Organisation Change	Type of IT Project	Systems Design	Systems Alignment	Procurement	Recruit PM & Project Team	Organic PM PLC	Technical PM SDM	PM Tools & Techniques
1	CSFs & FFS	Wickramasinghe, N., & Goldberg, S. (2005)									
2	CSFs & FFS	Phan, D.D. (2004).									
3	CSFs & FFS	Alshamlan, A. (2006).									
4	CSFs & FFS	Carroll, J. (2004).									
5	CSFs & FFS	Sangar, A. B., & Iahad, N. B. A. (2013).									
6	CSFs & FFS	Ab Talib, M. S., & Abdul Hamid, A. B. (2014).									
7	CSFs & FFS	Aziz, N. M., & Salleh, H. (2013). (construction)									
8	CSFs & FFS	Xu, H., & Hwang, M. I. (2007).									
9	CSFs & FFS	Xue, Y., Liang, H., Boulton, W. R., & Snyder, C. A. (2005)									
10	CSFs & FFS	Ngai, E. W. T., Cheng, T. C. E., & Ho, S. S. M. (2004).									
11	CSFs & FFS	Blindenbach-Driessen, F., & van den Ende, J. (2006).									
12	CSFs & FFS	Gardner, S., & Ash, C. G. (2003).									
13	CSFs & FFS	Miskon, S., Bandara, W., Gable, G. G., & Fielt, E. (2012									
14	CSFs & FFS	Love, P. E., Irani, Z., Standing, C., Lin, C., & Burn, J. M. (2005).									
15	CSFs & FFS	Standing, C., Guilfoyle, A., Lin, C., & Love, P. E. (2006).									
16	CSFs & FFS	Chua, A., & Lam, W. (2005).									
17	CSFs & FFS	Czirner, T (2010).									
18	CSFs & FFS	Haney, V. (2009).									
19	CSFs & FFS	Keil, M., Cule, P. E., Lytinen, K., & Schmidt, R. C. (1998).									
20	CSFs & FFS	Nikakhtar, N., & Jianzheng, Y. (2012									
21	CSFs & FFS	Stevens, K., & Fowell, S. (2003									
22	CSFs & FFS	Manchanda, V. (2005).									
23	CSFs & FFS	Mesnita, G., & Vasilica, T. (2003).									
24	CSFs & FFS	Amoroso, D. L., & Sutton, H. E. (2002, January).									
25	CSFs & FFS	Choen Weng Lou E, Alshawi M (2009									
26	CSFs & FFS	Cameron, J. (2005									
27	CSFs & FFS	Dubelaar, C., Sohal, A., & Savic, V. (2005).									
28	CSFs & FFS	Grunert, K. G., & Ellegaard, C. (1992									
29	CSFs & FFS	Nah, F. F. H., Lau, J. L. S., & Kuang, J. (2001									
30	CSFs & FFS	Li, J., & Huang, J. (2004).									
31	CSFs & FFS	Kumaraswamy, M. M. (2007).									
32	CSFs & FFS	Kelegai, L. K., & Middleton, M. R. (2004). *									
33	CSFs & FFS	Aggarwal, H. (2010). *									
34	CSFs & FFS	Lee, D. D. (2005, January).*									
35	CSFs & FFS	WS E-Government Projects									
36	CSFs & FFS	WS E-Government Ebusiness Projects									
37	CSFs & FFS	WS E-Government Public and Private Services									
38	CSFs & FFS	WS E-Government Entrepreneur and small businesses									
39	CSFs & FFS	WS-E-Government Traditional small businesses									
40	CSFs & FFS	WS-E-Government Traditional Village Alignment									
41	CSFs & FFS	Asian Development Bank Samoa Projects									
42	CSFs & FFS	Western Samoa Development Bank Businesses									

10.12. Table 11. RCC. Analysis CSFs / FFs

No	Ebusiness Failure Factors	Integration	Scop	Tim	Cos	Qualit	HRI	Com	Ris	Procur	S/holder	Technical
1	Mangerial Factors										1	
2	Technical Factors											1
3	Behavioral Factors						1					
4	security											1
5	Safety											1
6	User Acceptance		1									
7	Level of Innvestment				1							
8	Computing Architectures Framework		1									
9	Inadequate Project Management processes		1									
10	Lack of essential PM Siklls								1			
11	Collaboration Management Issues not well understood							1				
12	Lack of capital investment								1			
13	Lack of employee commitement						1					
14	Lack of Inhouse technical expertise						1					
15	Low level of integratiobn between offline and online business opreations	1										
16	Poor Performance Measurements						1					
17	Absence of fully integrated online experiences								1			
18	Inadequate response to market changes								1			
19	Problem with site speed, systems capacity, integration with backend systems											1
20	Limited customer knowledge											1
21	Lack Top management commitment										1	
22	Failure to gain User Commitment		1									
23	Failure to understand Project Requirements		1									
24	User Involvement										1	
25	Executive Support										1	
26	Requirment inflation (Scope Creep)		1									
27	Schedule flaws			1								
28	Unrealistic expectations		1									
29	Staff Turn Over						1					
30	Project Management		1									
31	Specification Breakdown											1
32	Technology and uncertainty											1
33	Not knowing what is at stake							1				
34	Lack of top management commitment										1	
35	Lack of user commitment		1									
36	Misunderstaninding of Requirements							1				
37	Failure to manage end user expectation							1				
38	Changing scope or objectives		1									
39	Inadequate knowledge and skills											1
40	Lack of frozed rejuirements			1								
41	New technology											1
42	Insufficient inappropriate staffing						1					
43	Conflicts between user departments						1					
44	Cognitive biases						1					
45	Satisficing										1	
46	Faulty Reasoning											1
47	Atomocity	1										
48	Problems in recall				1							
49	Communication Problems							1				
50	Motivational biases						1					
51	Lack of firewall											1
52	Lack of coding											1
53	Weak key management										1	
54	Attacks of destructive codes											1
55	Disclosing sensitive information								1			
56	Lack of continuous supervision								1			
57	Natural accidents which may destroy the equipment								1			
58	Threats of intention destroys in internal network								1			
59	Not enough back up of system								1			
60	Hardware and software problems								1			
61	Network sit overload											1

10.13. Table 12. RCC. Analysis CSF/FF

C ONTENT ANALYSIS - CRITICAL SUCCESS FACTORS - 276 CRS												
No	CRITICAL SUCCESS FACTORS	Integration	Scope	Time	Cost	Quality	HRM	Communic	Risk	Procure	S/Holders	Technical
1	Technology Innovation											1
2	Communication Strategies							1				
3	Professional Participation											1
4	Commitment Management all Levels										1	
5	E-Business governance										1	
6	Establish binding IT-Business partnership											1
7	Good Relationships							1				
8	Trust							1				
9	User Involvement										1	
10	Change Management Approach		1									
11	Technical knowledge											1
12	Outsourcing									1		
13	Top Management Commitment										1	
14	Strategic Planning										1	
15	Project Management Office											1
16	Conflict of Interest							1				
17	Top Management Stability										1	
18	Project Management		1									
19	Change Management		1									
20	Stakeholder Management											
21	Risk Management								1			
22	Supplier Management									1		
23	Business Process Reengineering											1
24	Communication Management							1				
25	Knowledge Management					1						
26	Project Team Competency											1
27	IT Infrastructure											1
28	Training and Education						1					
29	Reward and Recognition						1					
30	Employee Motivation						1					
31	Interest in IT											1
32	Attitude and prior experience							1				
33	Top Management support										1	
34	Adequate Training						1					
35	Adequate Resources				1							
36	Technology											1
37	Readiness to adopt IT										1	
38	Cost of Development				1							
39	Top Management Support										1	
40	Availability of appropriate hardware and Software											1
41	Knowldges and understanding of Business Process	1										
42	End user Requirements		1									
43	Communication Strategies							1				
44	Standardisation Issues							1				
45	Change Management		1									
46	motiation							1				
47	capability											1
48	communication							1				
49	coordination	1										
50	Planning of work		1									
51	Planning and effective execution								1			
52	Contingent approach										1	
53	Senior Management Involvement											1
54	Team											1
55	Cross functional teams											1
56	Expertise											1
57	Heavyweight project leader											1
58	Product Champion							1				
59	External Communication		1									
60	Involvement of Outside parties		1									
61	Customer Involvement		1									
62	Supplier involvement		1									
63	Activities undertaken		1									
64	Pre-development		1									
65	Market research and testing				1							
66	Launch		1									
67	Top Management Support										1	
68	Availability of appropriate hardware and Software		1									
69	Knowldges and understanding of Business Process	1										

10.14. Table 13. RCC. Analysis CSFs/FFs

VARIABLES	CSF AND FFs CONTENT ANALYSIS	Information Technology (E-Business) Projects	The 'Change'	The 'Project'	Project Team	Systems Design	Procure- ment	Communication System
No	Authors							
1	Wickramasinghe, N., & Goldberg, S. (2005)	Health care Solution	vW	vW	vW	vW	vW	vW
2	Sangar, A. B., & Iahad, N. B. A. (2013).	Business Intelligence	XX	XX	XX	XX	XX	XX
3	Ab Talib, M. S., & Abdul Hamid, A. B. (2014).	Supply Chain	XX	XX	XX	XX	XX	XX
4	Gido, J., & Clements, J. (2014).	Deleted						
5	Aziz, N. M., & Salleh, H. (2013). (construction)	Alpha, Beta, Gamma, Delta	XX	XX	XX	XX	XX	XX
6	Kelegai, L. K., & Middleton, M. R. (2004). *	PNG, two organisations	E-Govt	E-Govt	E-Govt	E-Govt	E-Govt	E-Govt
7	Xu, H., & Hwang, M. I. (2007).	Warehouse	XX	XX	XX	XX	XX	XX
8	Xue, Y., Liang, H., Boulton, W. R., & Snyder, C. A. (2005)	China E-Business	XX	XX	XX	XX	XX	XX
9	Aggarwal, H. (2010). *	Indian	E-Govt	E-Govt	E-Govt	E-Govt	E-Govt	E-Govt
10	Ngai, E. W. T., Cheng, T. C. E., & Ho, S. S. M. (2004).	Supply Chain	XX	XX	XX	XX	XX	XX
11	Blindenbach-Driessen, F., & van den Ende, J. (2006).	Various Organisations	XX	XX	XX	XX	XX	XX
12	Gardner, S., & Ash, C. G. (2003).	IT Change Management	XX	XX	XX	XX	XX	XX
13	Lee, D. D. (2005, January).*	E-Government	E-Govt	E-Govt	E-Govt	E-Govt	E-Govt	E-Govt
14	Miskon, S., Bandara, W., Gable, G. G., & Fiel, E. (2012)	Higher Education	XX	XX	XX	XX	XX	XX
15	Love, P. E., Irani, Z., Standing, C., Lin, C., & Burn, J. M. (2005).	Australia SMEs	XX	XX	XX	XX	XX	XX
16	Standing, C., Guilfoyle, A., Lin, C., & Love, P. E. (2006).	E-Business	XX	XX	XX	XX	XX	XX
17	Chua, A., & Lam, W. (2005).	Knowledge management	XX	XX	XX	XX	XX	XX
18	Czimer, T (2010).	Risk Management	XX	XX	XX	XX	XX	XX
19	Haney, V. (2009).	IT Projects	XX	XX	XX	XX	XX	XX
20	Keil, M., Cule, P. E., Lyytinen, K., & Schmidt, R. C. (1998).	E-Business	XX	XX	XX	XX	XX	XX
21	Nikakhtar, N., & Jianzheng, Y. (2012)	Decision System Support (DSS)	XX	XX	XX	XX	XX	XX
22	Stevens, K., & Fowell, S. (2003)	Software Development	XX	XX	XX	XX	XX	XX
23	Manchanda, V. (2005).	IT Projects	XX	XX	XX	XX	XX	XX
24	Mesnita, G., & Vasilica, T. (2003).	E-Business Development	XX	XX	XX	XX	XX	XX
25	Amoroso, D. L., & Sutton, H. E. (2002, January).	E-Business Development	XX	XX	XX	XX	XX	XX
26	Choen Weng Lou E, Alshawi M (2009)	E-Tendering Construction	XX	XX	XX	XX	XX	XX
27	Cameron, J. (2005)	E-Business Projects	XX	XX	XX	XX	XX	XX
28	Carroll, J. (2004).	E-Projects	vW	vW	vW	vW	vW	vW
29	Dubelaar, C., Sohal, A., & Savic, V. (2005).	BI Systems Implementation	XX	XX	XX	XX	XX	XX
30	Phan, D.D. (2004).	B2C Projects	vW	vW	vW	vW	vW	vW
31	Alshamlan, A. (2006).	E-Business Sysys development	vW	vW	vW	vW	vW	vW
32	Grunert, K. G., & Ellegaard, C. (1992)	Business Administration	XX	XX	XX	XX	XX	XX
33	Nah, F. F. H., Lau, J. L. S., & Kuang, J. (2001)	ERP Projects	XX	XX	XX	XX	XX	XX
34	Li, J., & Huang, J. (2004).	China E-Business	XX	XX	XX	XX	XX	XX
35	Kumaraswamy, M. M. (2007).	Architect, Engineer, Construction	XX	XX	XX	XX	XX	XX
36	WS E-Government Projects Multiproject- Global level	Social Economic Reforms 1987-2014	XX	XX	XX	XX	XX	XX
37	WS E-Government Ebusiness Projects -Country level	Private Business	XX	XX	XX	XX	XX	XX
38	WS E-Government Public and Private Services Country level	Variety of E-Business Services	XX	XX	XX	XX	XX	XX
39	WS E-Government Entrepreneur and small business- Country level	Entrepreneurs and Small Businesses	XX	XX	XX	XX	XX	XX
40	WS E-Government Traditional small business- Country level	Village Traditional Projects	XX	XX	XX	XX	XX	XX
41	WS E-Government Traditional Village Alignment -Country level	Alignment with E-Government	XX	XX	XX	XX	XX	XX
42	Asian Development Bank Samoa Projects-Country and Global Level	Multi-field multi-projects Samoa	XX	XX	XX	XX	XX	XX
43	Western Samoa Development Bank Businesses-Country level	Multi-field multi-projects Samoa	XX	XX	XX	XX	XX	XX

Key: vW = meet criteria: XX=Not satisfied criteria: E-Govt= contributed studies to e-government projects