INFORMATION TECHNOLOGY INNOVATIVENESS: THE ROLES OF MANAGEMENT SUPPORTS, INFORMATION TECHNOLOGY READINESS AND GOVERNMENT'S STRATEGY IN PALESTINE PUBLIC SECTOR

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DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
2017

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Thesis Submitted to
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
In Fulfilment of the Requirement for the Degree of Doctor of Philosophy

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ABSTRAK

Inovasi teknologi maklumat berpotensi besar dalam mengembangkan kebolehan dan efisiensi sesebuah organisasi, terutamanya di jabatan kerajaan. Palestin juga mempunyai matlamat yang sama dalam meningkatkan penggunaan teknologi maklumat. Walaupun kerajaan telah memainkan peranan dalam pemerkasaan inovasi teknologi maklumat ini, namun ianya masih terhad. Untuk itu, ia memerlukan inisiatif yang khusus dalam memahami fenomena pengembangan inovasi teknologi maklumat. Kajian literature mendapati bahawa faktor kepelbagaian adalah tidak konsisten. Kajian ini bertujuan untuk membangunkan model dengan menggunakan konteks kerangka kerja organisasi bagi mengenalpasti faktor penentu terhadap kecenderungan dalam mengadaptasi inovasi teknologi maklumat. Semenjak inovasi teknologi maklumat menjadi fenomena dalam menyokong proses transaksi organisasi dan institusi, kajian ini menekankan aspek budaya organisasi. Berdasarkan teori 'inter-organizational' yang dikawal, kajian ini mengandaikan bahawa budaya organisasi mempunyai peranan penyerdahanaan dalam menyumbang kepada faktor kejayaan. Sejumlah 500 soalan kaji selidik telah diedarkan kepada pengurus-pengurus di 21 kementerian di kalangan kerajaan tempatan di Semenanjung Gaza melalui 'Google Forms". Maklum balas telah dianalisa dengan menggunakan pendekatan "partial least square". Hasil kajian menunjukkan bahawa strategi kerajaan tidak mempunyai kesan signifikan terhadap inovasi teknologi maklumat; walau bagaimanapun, sokongan daripada pengurusan dan kebersediaan teknologi maklumat mempunyai kesan yang positif. Hasil kajian juga menunjukan bahawa budaya berorganisasi yang sederhana adalah penting. Dalam pada itu, peranan penyederhanaan menunjukkan kurang mendapat sokongan. Hasil kajian ini menunjukkan bahawa budaya berorganisasi dalam institusi kerajaan boleh mengubah motivasi berkaitan inovasi. Kajian ini menerangkan kepentingan untuk mempertimbangkan pandangan institusi kerajaan dalam menjayakan proses inovasi ini.

Kata kunci: Inovasi Teknologi Maklumat, Pandangan berasaskan sumber, Penyebaran inovasi, Faktor Organisasi

ABSTRACT

Information technology innovativeness has great potential to extend an ordinary organization's competency and efficiency, and this applies to governmental intuitions in particular. As such, Palestine has an objective to increase the diffusion of technology. Despite extensive government efforts, the adoption of innovativeness in the information technology sector is still limited. Consequently, there have been extensive efforts to better understand the phenomenon. However, literature review regarding the determinants of innovativeness are not altogether consistent. To provide more insight, this study aimed to develop a research model utilizing the organizational context framework to identify the determinants of the government's propensity to adopt information technology innovativeness. Since information technology innovativeness is an inter-organizational phenomenon supporting transactions of organizations and institutions, this study emphasizes the context of cultural characteristics. Grounded in inter-organizational theories, this study hypothesized that organizational culture had a moderating role in organizational motivating factors. A total of 500 questionnaires were distributed online by Google Forms to the managers in 21 ministries in the local government in the Gaza Strip. The responses were analysed using the partial least squares approach. The results revealed that government strategy has an insignificant effect on government information technology innovativeness; however, management support and IT readiness have a positively significant effect. Moreover, the results showed that the moderating organizational culture was pronounced. Meanwhile, the moderating role was partially unsupported. These findings demonstrate how the organizational culture in governmental institutions may change the innovativeness motivations. It was importance of considering the views of the governmental institutions for the innovativeness to be done successfully.

Keywords: Information Technology Innovativeness, Resource-Based View, Innovation Diffusion, Organizational Factors

ACKNOWLEDGEMENT

In the name of ALLAH, Most Gracious, Most Merciful, First and foremost, I thank God for giving me the strength, health, and wisdom to complete this thesis. I thank my supervisor, Dr. Abdul Manaf bin Bohari, for his support, guidance, and assistance throughout my PhD study. A special thank goes to the most important people in my life: To my parents, Riyad Lubbad and Haifaa Lubbad, their love and prayers have given me the strength to complete this study. And also a special thanks to all the respondents, who gave their valuable time to complete the online questioner. And I hereby acknowledge the support of my PhD study sponsor: Humanitarian Care Malaysia (MyCARE).

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LIST OF ABBREVIATIONS

AVE	Average Variance Extracted
B2BEC	Business to Business Electronic Commerce
CBSEM	Covariance-Based Structure Equation Modeling
DOI	Diffusion of innovation
GDP	Gross Domestic Product
HOC	Higher-Order Construct
ICT	Information Communication Technology
IS	Information System
IOS	inter-organization system
MOICT	Ministry of Information and Communications Technology
MTIT	Ministry of Telecommunications and Information Technology
NGOs	A non-governmental organization
PCBS	Palestinian Central Bureau of Statistics
PECDAR	Palestinian Economic Council for Development and Reconstruction
PhD	Doctor of Philosophy
PLC	Palestinian Liberation council
PLS	Partial least square
PNA	Palestinian National Authority
PS	public sector
PTITC	Palestine Trade information technology Center

***R* 2**	R-squared values
R&D	Research and Development
RAT	Reasoned Action Theory
RBV	Resource-based view
RDT	Resource Dependence Theory
SEM	Structure Equation Modeling
SMB	Small and Medium-Sized Corporation
SPSS	Statistical Package for Social Sciences
TAM	Technology Acceptance Model
TMS	Top Management Support
TOE	Technological, Organizational, and Environmental
TPB	Theory of Planned Behavior
UTAUT	Unified Theory of Acceptance and Use of Technology
VB-SEM	Variance-based Structure Equation Modeling
WBG	West bank and Gaza strip

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Today, innovation is extending the research process and is considered one of the basics in institutions and organizations. According to Cooper and Zmud (1990) and Davenport (2013), institutions pay a lot of attention to the innovation implementation process in order to develop their work. Davenport (2013) describes innovation as the best way for institutions to continue to succeed.

Innovation derives from the Latin term Novus, defined as the "introduction of something new" or a fresh idea, technique or stratagem (Tornatzky, Fleischer, & Chakrabarti, 2000). In this research, innovation refers to information technology innovation as opposed to any other form of innovation. Amongst the diversity of definitions, government information technology innovativeness is reflected as a process wherein knowledge, technology and systems are established in the governmental working process. This process is affected by management support, information technology readiness and government strategy, by studying the interrelations between these variables.

This chapter gives an overview of the background to the study, the problem statement, the research question and research objective, the scope of the work, the operational definitions used in this study and the organization of the study.

1.2 Background of Study

In the era of globalization, deregulation, amassed competition, e-commerce and new technologies, public institutions are finding it tough to adhere to governmental working processes and serve the public. With this energetic and changing situation in the field of information technology, to attain development and sustain performance is to invent and innovate (Higgins, 1996).

Van der Boor, Oliveira, and Veloso (2014) see that the most advanced countries have realized the problem of innovation in the field of information technology and they are able to deal with the innovation and its implementations and adoption. But at the level of Middle East countries, they still need to understand how to deal with this problem and seek to resolve it through training and development.

Therefore, to achieve satisfactory levels of performance, it is important not to ignore opportunities: for the need for a little effort and low cost, an organization can achieve excellence and creativity among employees and a high level of performance in the field of information technology (Alatar, 2012).

The concept of information technology has become indispensable in performance of individual, organizations, and the government at large. In the contemporary global world, innovation in Information Technology (IT) can assist government in the discharge of its immense functions to its citizen. The United Nations (2017) and the Organisation for Economic Co-operation and Development (OECD) (2011) specify ten core functions of the government. These comprise General public services, Defence, Economic affairs, Housing and community amenities, Public order and

safety, Health, Environmental protection, Social protection, Recreation, culture and religion.

The extent to which each country will achieve the functions depends on its level of adoption of information technology and its IT innovativeness. In the context of Palestine, therefore, there are twenty-one (21) ministries (Statistical Office of the General Personnel Council, 2016) created to perform different functions that encapsulate the ten identified functions by the United Nations and OECD. The functions comprise defence, education, health, environmental safety among others. Specifically, the country has a ministry of Information Technology that is charged with the responsibility of embracing different IT innovativeness for the delivery of government services by the other ministries.

So, in order to stay at the top and keep a public advantage, governments need to have a good strategy to maintain, progress, establish, allocate and utilize governmental organizations' resources. To achieve a satisfactory governmental working process and publicity, a systematic recognition of the information technology innovativeness is required, which has a strong influence on both the government's work and its publicity process (Grant, 2006).

In addition, alterations include the generation and adaptation of development ideas, and governmental institutions having the support of management for information technology implementation and adoption by the governmental institutions, staff and employees. There also needs to be inspiration in terms of information technology and related determination to progress in the technology evolution process (Russell, Borick, & Shafritz, 2012). Information technology innovation and the suitable implementation of new technologies play an important part in the governmental

development procedure of all countries, especially Middle East countries (Said & Badawi, 2014).

The literature discloses that innovation in information technology is fruitful in countries which are entrenched in their own indigenization struggles (Russell et al., 2012). In this study, government information technology innovativeness is considered a combined and active process.

Despite the importance of information technology, literature has shown that there are weaknesses in the delivery of services through IT innovativeness. The country is still confronted with lack of substantial ICT usage in education, business and government; lack of good leadership and coordination; inadequate innovation and creativity, among others (Portland Trust, 2012).

This study investigate the level of government information technology innovativeness in local government in Gaza Strip, Palestine, through decision makers and managers by investigating the relationship between management support and government information technology innovativeness. It further aims to assess governmental readiness by studying the information technology readiness effect on government information technology innovativeness, and to discover the government strategy by investigating the relationship between government strategy and government information technology innovativeness. This study will also investigate the moderating effect of organizational culture on government information technology innovativeness.

1.2.1 Palestinian National Authority

Palestine is a geographical area located in Western Asia between the Mediterranean Sea and the Jordan River. The total size of Palestine is 27,000 sq. km. The size of Palestinian territory under Palestinian control is 6,020 sq. km, including the West Bank (5,655 sq. km: 130 km long, 40–65 km in width) and the Gaza Strip (365 sq. km: 45 km long, 5–12 km in width). The rest of Palestine is occupied by Israel. The population of the total occupied Palestinian territory is 4,260,000, comprising 2,830,000 in the West Bank and 1,790,000 in the Gaza Strip. A further 1,460,000 live in the lands occupied by Israel (PCBS, 2014). See Figure 1.1.

The Palestinian National Authority (PA or PNA) is the interim self-government body (Weiner, Lindenfeld, Binyamin, & Wanderman, 2014) established to govern the local governments in the Gaza Strip and Areas A and B of the West Bank as a consequence of the 1993 Oslo Accords and the remaining 77 per cent of Palestinian land occupied by Israel (Ayyad & Pym, 2012; Rudoren, 2013). Following elections in 2006, its authority had extended only to areas A and B of the West Bank: the local government in the Gaza Strip was managed by the Hamas elected government (Haaretz, 2013; Qadri, 2013).

Figure 1: *Palestinian lands and occupied lands by Israel*
Source: Gelvin (2014)

1.2.1.1 Gaza strip governing structure

The administration of the Gaza Strip, located on the southern coast of Palestine, is divided into five districts (White, 2014). After the signing of the Oslo Accords in 1993, the Palestinian lands of the Gaza Strip and West Bank were divided into three parts (Area A, Area B, and Area C) (Hussain, Hassan, Rasheed, Ali, & Ahmed, 2012; White, 2014).

In 2005, Israel withdrew from the Gaza Strip, expanding the administered Palestinian lands in that area (Berti, 2015; Said & Badawi, 2014; Strand, 2015). In 2006, after the Islamic Hamas movement won the election in Palestine (Berti, 2015), it has since managed the five regions with eight cities (Berti, 2015; Said & Badawi, 2014). The five regions are Deir Al-Balah Governorate, Khan Yunis Governorate, Rafah Governorate, North Gaza Governorate and Gaza Governorate.

1.2.1.2 Gaza Strip local government

The government of the Gaza Strip was carried out by the elected Hamas administration, controlled by Prime Minister Ismail Haniyeh, from 2007 to 2014. Hamas administration was often mentioned as the Hamas government in Gaza (Said & Badawi, 2014).

Hamas won the Palestinian elections on 25 January 2006, and Ismail Haniyeh was chosen as Prime Minister, creating a Palestinian national harmony government with Fatah, which effectively distorted when Hamas and Fatah were involved in a forceful fight. After the Hamas takeover in Gaza on 14 June 2007, the Chairman of the Palestinian authority Abbas fired the Hamas-led government and chose Salam

Fayyad as Prime Minister (Jamal, 2013). However the new government's power did not apply to all Palestinian lands: it was narrowed to just the Gaza Strip because it was consider an Islamic movement fighting Israel for Palestinian rights, and the Israeli army could access any place in the West Bank but not the Gaza strip, The authority of the West Bank is carried out by the Faith administration, controlled by Mahmoud Abas as president, and this administration believes in peace with Israel (Said & Badawi, 2014).

Since the Hamas movement won the election, there has been conflict between similar factions operating in Gaza and with Israel, most particularly the Gaza War of 2008–2009, the Gaza War 2012 and the last war in 2014 (Berti, 2015; Hussain et al., 2012).

1.2.1.3 The local government in Gaza Strip structure

The local government in Gaza strip-Palestine, The Ministry of Health is the largest ministry in terms of the number of employees, followed by the Ministry of Education and Higher Education. All government affairs are managed through the institutions and committees of the Ministry of Governmental Affairs, Due to the special situation in the Gaza Strip, the Ministry of the Interior plays an important role in maintaining citizens' security, The Ministry of Finance is one of the most important ministries that provide the financial resources of the government in Gaza from different sources, Noting that Israel is imposing a severe financial blockade on the government in Gaza, making it difficult for the Ministry of Finance to work. Since the Gaza Strip has been besieged by Israel since 2005, it was necessary for Gaza to rely on food sources; this is the role of the Ministry of Agriculture, which

works to exploit the land for agricultural projects that provide food for the people of the Gaza Strip. One of the most important strategies for the government in the Gaza Strip is to ensure that people have a great deal of knowledge in matters of the Islamic religion, and the care of religious institutions and mosques, Therefore, the Ministry of Religious Affairs is working on many projects that work to development of people in terms of religion, especially the Koran and the care of mosques Through the various institutions of the ministry distributed in the Gaza Strip (A. M. Hassan, El-Essy, Maysara, 2014). The list of the local government in Gaza Strip-Palestine Ministries you can find it in appendix B.

1.3 Problem Statement

The key purpose of this research is to examine the determinants for governments' innovativeness of information technologies in the public sector, which have been paid relatively little attention by researchers, notwithstanding their significance in technological advancement in the public sector (Kapoor, Dwivedi, & Williams, 2014; Rashidi, Begum, Mokhtar, & Jacqueline, 2014). This research discusses technology innovation in the public sector of the local government in the Gaza Strip, Palestine. These innovations occurred in different governmental institutions' public and governmental routines across the Gaza Strip.

Governments and people today are very aware of governmental working processes and the provision of services in the public sector, and the public sector needs increasingly better and quicker government innovation (Mergel, 2013a). The government responsibility to promote institutional services to the public sector is important, but local governments in the Gaza Strip are not willing to pay such important attention to the development of governmental institutions' working

process by means of information technology (Claypool, 2013). In addition, they are not looking at how to facilitate the process of providing public services by using information technology (Hamada, 2014). A study conducted on online communication in the Gaza Strip revealed that there is little response from governments concerned about information technology implementation (Carano, Stuckart, & Whittaker, 2013). Furthermore, an empirical study indicating the information technology innovation implementation in local governments in the Gaza Strip reveals that the government shows a negative attitude towards information technology innovation, which causes the public sector to be dissatisfied with governmental work (El-Naby & Ashour, 2015).

Despite the importance of information technology in solving societal problem in the global world, Palestine has witnessed a lot of problems due to lack of information technology innovativeness and usage in government service delivery. In 2015, the Palestinian government suffered a budgetary deficit of over 350 million US with also an increase in the public debt of more than 4 billion US dollars (Rahhal, 2017). This is as a result of tax evasion that would have been prevented if there is an appropriate information technological adoption and implementation that would capture every tax payer into the tax net.

Also, the level of corruption in Palestine is high because the loopholes are not technologically blocked through information technology innovations and adoption. The corruption report for 2012 issued by Palestine Transparency (2012) indicates that the public sector in Palestine has a corruption rate of 52%, political faction 18.5%, private sector 16%, local bodies 8.4%, and civil sector 5.3%. It, therefore,

becomes imperative to examine the factors affective the information technology innovativeness in Palestine.

The public sector commonly desires better services and sharp processes, but this turns into negative thinking when it is related to local government in the Gaza Strip. Along with complications of efficiency and international benchmarking, the changing wants and needs of the public sector (people and government) demand enhanced technological innovation in governmental work and progress (Al-Madhoun, 2007). The private and non-private sectors and NGOs are demanding more facilities that include advancing public service, governmental progress, communication technologies, etc. The current technological progress of the Gaza Strip local government and the public sector is very much less satisfactory and acceptable when compared with many other governments (Shaqfa, 2014). Therefore, the local government in the Gaza Strip needs to increase its rate of technological innovation, chiefly in the public service sector, to confirm sustainability and advantages for further development and improvement (Sabella, 2013).

Furthermore, studies provide confirmation regarding the implementation of information technology innovation in local government in the Gaza Strip. The low rate of information technology in the Gaza Strip local government is a demonstration of government working efficiency: they are not dedicated to providing high effectiveness and toward the public (Sultan, 2011). The public sector in the Gaza Strip requires the government to keep up with technology in its governmental working process (Lubbad & Ashour, 2014; Shat, Mousavi, & Pimenidis, 2014).

Also, evidences from previous literature clearly define that governments are not taking responsibility for facilitating governmental work by means of information

technology. Smith (2015) reported a negative gap in the level of information technology innovation implementation and adoption in local government in the Gaza Strip. Araj (2011) suggested that local government in the Gaza Strip was losing public sector loyalty due to the low standard of delivery of public service and the government working process, which does not meet the expectations of the people, especially after they elected a trusted government in 2006.

Audretsch (2004) contends that in order to more quickly advance technology, a determination of governments' innovativeness is authoritative in affecting the degree of innovation and its final performance. However, there has not yet been enough research into public service and governmental work innovation. If we compare with other types of research, basic research regarding determinant factors of governments' innovativeness in the public sector clearly has a low priority.

There is still little research progress in the area of government information technology innovation implementation and adoption, even though it is important and necessary for the public reception of new services and has high prioritization for the GDP when compared to other private sectors or to local government in the West Bank over the past decades (Etkes & Zimring, 2015; A. M. Hassan, El-Essy, Maysara, 2014). Local government in the Gaza Strip is one of the most important sectors in Palestine, and is also considered one of the larger employers in the Gaza Strip (Enshassi, Mohamed, & Abushaban, 2009). The low rate of technological improvement in local government in the Gaza Strip has raised concerns regarding governmental institutions' progress and the provision of public services (Messerschmid, 2011). Research by PILLA (2015) warned that one of the major determinants for the survival of local government in the Gaza Strip and its service

provision is the ability of local government to improve and implement advanced design technologies.

A literature review carried out by El-Naby and Ashour (2015) discovered that there is little attention given to information technology innovation implementation and adoption, especially in the public sector, particularly where the concern is continuous improvement in meeting public sector requirements. Few articles focused on specific technology implementations and were conducted in specific areas (Lubbad & Ashour, 2014). There is not enough empirical evidence surrounding this topic, particularly in the context of the public sector in developed and developing countries, and especially in Palestine.

Siyam (2013) and Dubaik (2015) conducted studies in the public education sector and recommended that information technology innovativeness should be included across the whole public sector and all governmental working processes. Another study Lin, Fengyi Fofanah, Seedy Liang, and Deron (2011) reinforces that information technology innovation innovativeness will affect perceptions in the public sector. Furthermore, there are recommendations to study information technology innovation in the public sector (Sugarhood, Wherton, Procter, Hinder, & Greenhalgh, 2014).

Organizational culture is necessary for governments that frequently undergo dynamic changes in implementation and strategy. Duhamel, Gutierrez-Martinez, Picazo-Vela, and Luna-Reyes (2014) argued that organizational culture is one of the most important variables in the public sector, having a positive effect on governmental process. Furthermore, organizational culture has a positive relationship with information technology innovativeness (Liu, Ke, Wei, Gu, & Chen,

2010). In contrast, Smith (2013) found organization culture to be a contingency factor negatively affecting motivational factors in adopting new technology. Using organizational culture as a moderator has been a very important variable in the study of government process in the public sector (Pereira, 2014). There is a need for more evidences on organizational culture and government information technology innovation implementation and adoption in the public sector. Earlier studies have shown in different service organization in different countries, but the public sector, as per the researcher's knowledge, remains untouched. Hereafter, empirical study is certainly needed to identify the relationships between management support, information technology readiness, government strategy and government information technology innovativeness.

1.4 Research Question

Based on the research problems, the research questions are addressed. The research questions of this study relate to the relationships of Organizational characteristics and the Role of Organizational Culture on Information Technology Innovativeness in the local Government in Gaza Strip - Palestine. The specific research questions of this study are as follows:

1. Does Management Support influence Information Technology Innovativeness?
2. Does Information technology readiness influence Information Technology Innovativeness?

3. Does Government Strategy influence Information Technology Innovativeness?

4. Does Organizational Culture moderate relationship between Management Support, Information technology readiness, Government Strategy and Information Technology Innovativeness?

1.5 Research Objectives

Based on the research questions, the research objectives are addressed. The general purpose of this study is to investigate the relationships of Organizational characteristics and the Role of Organizational Culture on Information Technology Innovativeness in The local Government in Gaza Strip - Palestine. The specific research objectives of this study are as follows:

1. To examine the influence of Management Support on Government Information Technology Innovativeness.

2. To verify the influence of Information technology readiness on Government Information Technology Innovativeness.

3. To evaluate the influence of Government Strategy on Government Information Technology Innovativeness.

4. To investigate the moderating role of Organizational Culture on the relationship between Management Support, Information technology readiness, Government Strategy and Government Information Technology Innovativeness.

In order to clearly state the linkages between problem statement, research questions, and research objectives, a recapitulation is presented in Table 1.1 as follow.

Table 1.1
Recapitulation of Problem Statement, Research Questions, and Research Objectives

No	Problem Statement	Research Questions	Research Objectives
1	There is still lacked of theoretical support for understanding and explaining the reality or the boundaries of Information Technology Innovativeness.		To propose a model by examining the moderating effect of Organizational Culture on the relationship between organizational Characteristics (Management Support, Information technology readiness and Government Strategy) and Information Technology Innovativeness.
2	Management Support is important to be competitive, and its effects on information technology innovativeness.	Does Management Support influence Information Technology Innovativeness?	To investigate the relationship between Management Support and Government Information Technology Innovativeness.
3	Information technology readiness is important to be competitive, and its effects on information technology innovativeness.	Does Information technology readiness influence Information Technology Innovativeness?	To investigate the relationship between Information technology readiness and Government Information Technology Innovativeness.

4	Government Strategy is important to be competitive, and its effects on information technology innovativeness.	Does Government Strategy influence Information Technology Innovativeness?	To investigate the relationship between Government Strategy and Government Information Technology Innovativeness.
5	The role of Organizational Culture in the organizational Characteristics (Management Support, Information technology readiness and Government Strategy) and Information Technology Innovativeness has not been fully agreed and remain controversial.	Does Organizational Culture moderate relationship between Management Support, Information technology readiness, Government Strategy and Information Technology Innovativeness?	To investigate the moderating role of Organizational Culture in relationship between Management Support, Information technology readiness, Government Strategy and Government Information Technology Innovativeness.

1.6 Contribution of the study

This study provides an exclusive theoretical framework intended to assist researchers and practitioners develop a comprehensive understanding of the linkages between Organizational Factors and Information Technology Innovativeness. Therefore, the implication of this study can be divided into two categories, which are theoretical contributions and practical contributions.

The study will provide local government in the Gaza Strip with the findings and recommendations of this study to take advantage of them and build on them in the area of government information technology innovativeness in the public sector.

There is a lack of research regarding the relationship between management support, information technology readiness, government strategy and information technology innovation implementations and intention to adapt. There remains a huge gap that needs to be filled in this field of research, and this study is being conducted in the public sector and from the perspectives of government managers, especially in the Gaza Strip.

1.6.1 Theoretical Contributions

Prior empirical study on government information technology innovativeness is rare, and such has not even been conducted in Palestine. From the theoretical perspective, therefore, this study contributes to the growing literature on information technology innovativeness implementations by extending the study on information technology innovativeness to Palestine. In addition, the study contributes to the study contributes to existing knowledge by incorporating the role of management support, government strategy and information technology readiness in information technology innovativeness implementations in governmental working process. Specifically, the findings show to what extent management support, government strategy and information technology readiness within the government could play an important role in shaping the government information technology innovation in governmental work. More importantly, the present study is able to enhance the existing body of knowledge by showing how organizational culture moderates the effect of management support, government strategy and information technology readiness on government information technology innovativeness via the application of Rogers' innovation model (Rogers, 1995).

This study also contributes to our theoretical understanding of government information technology innovativeness in local government in the Gaza Strip and its implementation, by using the Resource Based View, Contingency and Diffusion Theory to support the theoretical part of the study. The present study is important for a country like Palestine that has witnessed a growing occurrence of this issue, which has led to financial and productivity costs, as remarked by the Ministry of Information Technology in local government in the Gaza Strip (Alisawi, 2014).

Specifically speaking, theoretical contribution can be divided into three sections, namely, empirical contribution, conceptual contribution, and methodological contribution.

1.6.1.1 Empirical Contribution

Previous literature in information technology innovativeness tend to be conceptual in nature. In terms of empirical contribution, this study makes an original contribution to extent the existing body of knowledge in the area of information technology innovativeness literature by examining the factors affecting the government information technology innovativeness through collection and analysis of data. It offers an empirical analysis of organizational factors in the local government of Gaza strip – Palestine, and its relation with the information technology innovativeness, where organizational culture acts as the moderating factor. After the thorough review of the literature, the local government of Gaza strip - Palestine has relatively a handful studies in the field of information technology innovativeness. There are insufficient studies that bridged the gap of organizational factors, organizational culture, and information technology innovativeness and intention to adapt, especially in the public sector. Therefore, this study will contribute to organizational factors, organizational culture, and information technology innovativeness literature by investigating a new theoretical approach of information technology innovativeness in a single framework.

All of the studies in the area of information technology innovativeness or information technology intention to adapt or information technology adoption conducted in the business and financial sectors, but this study consider the first information technology innovativeness study in the public sector context.

1.6.1.2 Conceptual Contribution

In terms of conceptual contribution, this study will be useful for academics. From the theoretical perspective, this study aims to fill the gap of imperfect causal chains of information technology innovativeness. Therefore, this study provides a succinct and holistic review of the existing literatures. Several studies have been observed the dependent, independent and mediating position of the organizational culture in their research framework, but there is still insufficient data for moderating position of organizational culture in information technology innovativeness. To the best of the author's knowledge, this will be the first research that extents the current body of research in the information technology innovativeness area by examining organizational culture as a moderation effect in the relationship between organizational factors and information technology innovativeness. And the government strategy as one of the organizational factors. Besides, the culmination of "Resource Based View", "contingency and "Diffusion of Innovation" theory provides a new concept in viewing phenomenon of information technology innovativeness in the Gaza Strip local government. In addition, this study proposes a revise framework to explore avenues for further research that could better distinguish the interrelationships among organizational factors, Organizational culture, and information technology innovativeness.

1.6.2 Practical Contributions

In terms of practical contributions, this study is useful for practitioners. From the practitioner's point of view, this study will be valuable to governmental and nongovernmental institutions working on and planning to use the information technology to develop their organizations and institutions. The result of this study

provides useful and practical guidelines for practitioners while make the financial and non-financial decisions. Besides, this study also helps practitioners understand the resources and conditions required to realize the best use of the information technology.

The components of the construct that influence information technology innovativeness found in this study could enhance the ability to understand the complexity of who to deal with information technology in solving the organizations and institutions problems. Furthermore, this study provides a managerial focus to understand current baseline, identify gaps, and provide a managerial framework to improve the local government in Gaza strip-Palestine. Practically speaking, if the findings are correct, the present study will help governments formulate strategies that can curb the occurrence of government information technology innovativeness in the public sector in Palestine in general and the local government in the Gaza Strip in particular through management support, government strategy and information technology readiness. In particular, the results of the study will help the government and government managers and practitioners to establish the determinants of governments' information technology innovativeness in Gaza Strip local government.

1.7 Scope of Study

This study focused on the local government in the Gaza strip. It also used the managers in the local governments. The managers in the local government in the Gaza strip share the same qualities with other managers in the other local governments in Palestine, hence, the respondents serve as good representatives of the entire population of work force in the public sector.

There are two reasons for selecting local government in the Gaza strip. The first reason for selecting the local government in the Gaza Strip is that the governmental work in this local government is bigger than the local government in the West Bank. The second reason for selecting the local government in the Gaza Strip is that the local government here faces a lot of problems related to providing public services to the public sector and a lot of problems in its governmental working procedures (Smith, 2015).

In order to determine the specific dimensions within the context of TOE, this study considers only the variables that existing literature accepts as important determinants for information technology innovativeness and adoption, even with inconsistency about their relevance. We cannot study environmental dimensions because the environment of local government in the Gaza Strip is described as an unstable environment because of the continued political conflicts in the region that affect the governmental working environment. Also, most of the research in this area was conducted in the business area, and the most common dimensions studied for the environmental context related to competition between firms and companies, which cannot be studied in the public sector context, especially the with unstable environment in the Gaza Strip context (Ifinedo, 2007, 2011).

This study will investigate the relationship between the organizational context (management support, information technology readiness and government strategy) and government information technology innovativeness, considering the moderating effect of organizational culture. The focus of this study is the public sector of the Gaza Strip, Palestine.

To answer the research questions and meet the objectives specified above, this study is conducted amongst the managers in local government in the Gaza Strip. Justification for the selection of this particular sample to examine government information technology innovativeness is presented in the methodology chapter. The Gaza Strip in particular is chosen as the context of the study as studies on government information technology innovativeness have been largely carried out in the West (El-Ghorra, 2011). To date, no one has considered studying the issue in the Gaza Strip, or even in Palestine. As Palestine is aiming to develop itself socially, economically and politically, it is particularly relevant to address issues such as government information technology innovation implementation and adoption otherwise the development of the country will be adversely affected.

In order to achieve the research objectives set out above, an online questioner will be carried out involving the emailing of the online questionnaires amongst managers randomly selected in local government in the Gaza Strip. The use of an online questionnaires in the present study was appropriate because the research is concerned with knowing how management support, information technology readiness and governmental strategic planning can influence government information technology innovation implementation and adoption by including organizational culture as a moderating variable in this relationship.

1.8 Organization of Thesis

This thesis comprises of five interrelated chapters, this chapter consists of research background and motivation, statement of problem, questions of research, objectives of the study, and the significances and important of conducting the study. The Second chapter discusses the innovation, relevant literature on in the

domain of information technology innovativeness and adaption, determinants of information technology innovativeness in previous research, and underpinning theories related to information technology innovativeness intention to adapt. The Third chapter develops workable research framework that dealt with literature voids, presents the research hypotheses, explains the research design, and demonstrates the data collection, describe the descriptive statics regarding research variable and respective respondent, and finally justifies the data analysis strategy. Chapter Four elaborates further on application of PLS-SEM in order to achieve the proposed research objectives and to test the proposed framework. Finally, chapter Five provides an in-depth discussion of the research findings, highlights the theoretical and practical implications of the study, specifies research limitations, and outlines future research directions that could extend the present study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The general idea of the literature review is to investigate government information technology innovativeness. The determinants of information technology innovativeness are hypothesized and the significant influences of technologies are critically reviewed. These factors are the basis of a conceptual model of government information technology innovativeness in local government in the Gaza Strip.

This chapter addresses the innovation definition, determinants for government information technology innovativeness which is the study independent variable and the organizational culture as the moderating variable, underpinning the theory at the end of this chapter.

2.2 Terms and concept operations

There are five variables contained in the conceptual framework, the definitions these variables are as follows:

2.2.1 Organization Innovativeness

Organization Innovativeness is the notion of openness to new ideas as an aspect of an organizational culture (Venkatesh & Bala, 2012). In other words, it is the creativeness of an organization in coming up with ideas that promote the development of the organization.

2.2.1.1 Government Information Technology Innovativeness

Based on the Venkatesh and Bala (2012), Organization Innovativeness definition the Government Information Technology Innovativeness defined as notion of openness to new information technology ideas in the government as an aspect of an organizational culture. This study defines the government Information technology innovativeness as the openness and creativity of the government in application of information technology in the government service delivery.

2.2.2 Management support

Management technology support refers to the degree of managerial and organizational openness of technological change (Cho & Kim, 2002). This study will define management support as the effect on the Government Information Technology Innovativeness in the local government in Gaza strip – Palestine.

2.2.3 Government Strategy

Fairbank, Labianca, Steensma, and Metters (2006) they define the Organization's strategy as a set of strategic patterns. And strategy for the technology innovativeness refers to the complexity of the information technology in the organization strategy, such as considering the effects of information technology on an organization's work (Wang et al., 2012). This study will define government strategy as the effect on the government information technology innovativeness in the local government in Gaza strip – Palestine.

2.2.4 Technology Readiness

Mithas, Jones, and Mitchell (2008) they defined technology Readiness, as the continuous technological improvements in existing work, development of new technology use, and investment in keeping abreast with technological developments. This study will define technology innovation Readiness as the effect on the government information technology innovativeness in the local government in Gaza strip – Palestine.

2.2.5 Organizational Culture

Organizational cultures defined by Seren and Baykal (2007) as Comprised of the assumptions, values, norms, and customs of the organization and its members, and their interpersonal relationships affect their work and operating outcomes. This study will define organizational culture is an effect on the relationship between management support, technology investment, government strategy and government information technology innovativeness in the local government in Gaza strip – Palestine.

2.3 Definition of Innovation

According to Freeman and Soete (1997) and Kuczmarski (2003), innovation may be defined as the first use or adoption of a new idea. Innovation is not a technical term but rather it is an economic and social term, and it may be considered the specific instrument of entrepreneurship that entails changing the yield of resources. There has been some tendency in the literature to define innovation as encompassing invention.

The above and additional problems with defining innovation can be related to the scope of innovation. Some considerations are the types of innovation, the phases of innovation and the level of investigation (Job & Bhattacharyya, 2007).

2.3.1 Types of innovation

Innovation has been classified on different bases. Gopalakrishnan and Damanpour (1997) and Seng and Mohtar (2012) discerned three types of innovation.

I. Radical innovations, which involve breakthroughs in technology that cause significant changes in the entire work.

II. Incremental innovations, which take place within the organization as small ideas to improve the services.

III. System innovations, which involve several resources and many labour years to accomplish, such as communication networks and satellite operations.

This study focuses on ways to adapt and implement information technology innovation in local government in the Gaza Strip, which leads to advances and important development and change in both governmental working and publicity process. Therefore, the study looks towards the first type of the innovation mentioned above, which is radical innovation.

Another way of classifying innovations is based on the focus of the innovative effort in terms of the working process output. The procedures of innovations are improvements in technology that allow a larger governmental performance output; these generally involve new public serving methods or new machinery. Contrasted with the process of innovation is public sector innovation, which results in qualitatively superior output, bringing new governance methods into the country

(Berg, 2014). This study looks to develop the governmental working process, so this type of innovation classification will not be the focus in this study.

2.3.2 Phases of information technology innovation

According to Seng and Mohtar (2012), the phases of information technology innovation can be approximately grouped into two separate stages: 1) generation of information technology innovation; and 2) adoption of information technology innovation. The generation of information technology innovation contains idea formation and problem solving for governmental working process or process answers. The adoption stage is the gaining and/or adoption and implementation of an information technology innovation. Governments can undertake one or the other wholly, major in a specific phase, or engage.

2.4 What is Information Technology Innovativeness Research?

IT innovativeness research has been initiated to investigate the slow, often unexpected adoption of IT innovations. This issue has motivated scholars and practitioners to understand, manage and predict its diffusion. Most innovation studies seem to address the same research question: what factors facilitate or hinder the innovativeness, adoption and diffusion of IT-based innovations within a population of potential adopters? (Fen, 2013; Fichman, 2004; Fichman, Dos Santos, & Zheng, 2014; Ghobakhloo, Hong, Sabouri, & Zulkifli, 2012; Jeyaraj, Rottman, & Lacity, 2006; Mohamad & Ismail, 2009; Robey, Im, & Wareham, 2008; Yoon & George, 2013).

Innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption (Rogers, 1995). (Fichman et al., 2014)) define technology innovation as a working model, process or product that is perceived as new, entails some substantial change on the part of adopters, and is enabled by or embodied in IT.

Studies have shown that many factors influence information technological innovation. From individual point of view, Klein and Bhagat (2016) found that that expertise and psychographics of individual are the key catalyst for technological innovativeness. From the business perspective, Vanhala and Ritala (2016) found that the organizational innovativeness is influenced by an effective HRM practices. Based on this, therefore, it can be argued that government information technology innovativeness can be enhanced with the expertise of the operator, readiness of the government to deploy IT, management support and good strategy.

Scholars argue that innovation adoption can be understood as a process consisting of several stages. The process of IT innovation has been divided by several scholars into a variety of stages. For example, Zmud (1984) divided the innovation adoption into three stages that include initiation, adoption and implementation stages, while Premkumar and Ramamurthy (1995) divided it into four stages comprising comprehension, adoption, implementation and assimilation. For Meyer and Goes (1988), the adoption process consists of five stages, which include knowledge awareness, evaluation, adoption, implementation and expansion. However, Zhu, Kraemer, and Xu (2006), Chan, Chong, and Zhou (2012) and Wu & Chuang (2010) divide it into three stages. Lin (2013), Rogers (2003), Thong (1999) and Hameed, Counsell, and Swift (2012) argued that all of these stages can be classified into two

general stages: initial innovation adoption stage (pre-adoption) and post-innovation adoption stage (usage stage). The pre-adoption stage enquires what has made/makes the adopter likely to respond to the change. It focuses on the factors that lead to the decision to adopt (Hameed et al., 2012; Karahanna, Straub, & Chervany, 1999; Son & Benbasat, 2007). On the other hand, the post-adoption stage focuses on understanding how to put an innovation to use. This stage is concerned with the innovation design and the implementation process and procedures to increase widespread and rapid acceptance of the innovation (Fen, 2013; B. Ramdani & Kawalek, 2007; Rogers, 2003). This, therefore, implies that organization or government cannot just jump into information technology adoption without noting the processes and stages involved, else, failure in the adoption and implementation may be recorded.

The present IT innovativeness adoption research shows diversity in the dependent variables that are used to measure the adoption behaviour. Most adoption research falls under three categories (Jeyaraj et al., 2006; Liu, Zhenhua Min, Qingfei Ji, & Shaobo, 2008). The first category examines the adoption intention, which refers to the pre-adoption stage (Fen, 2013; Lin & Fen, 2014). Researchers asked respondents to assess their willingness to adopt a particular technology (Jeyaraj et al., 2006). The second category focuses on the adoption decision whether the respondent is an adopter or non-adopter. It is also refers to the pre-adoption stage (Karahanna et al., 1999; S. Sharma & Rai, 2015). The researchers measured adoption by asking the respondents whether they are currently adopters or non-adopters (Mohamad & Ismail, 2009). The third category examined the usage or usage intensity, referring to the post-adoption stage, Scholars in this research area examined the determinants of usage or usage intensity (Chen, Liang Holsapple, & Clyde, 2013; Hameed et al.,

2012; Jeyaraj et al., 2006; Liu et al., 2008; Mohamad & Ismail, 2009). Mohamad and Ismail (2009) labelled the last category IT innovation diffusion, which is e-commerce. This refers to the extent to which e-commerce technology assimilates into the firm's operation or the degree of e-commerce intensity.

The presence of several variables to measure adoption would raise the question of whether the factors that affect innovativeness, intention, adoption decision or usage are the same. Karahanna et al. (1999) were the first scholars to conduct a comparative study to examine whether potential adopters (pre-adoption) and current users of IT innovativeness (post-adoption) hold the same perceptions and beliefs. Further, they examined whether the influencing factors in determining behavioural intention are the same for potential adopters and current users of IT. They studied this theoretical question by examining the individual (potential adopter and actual adopter) decision to adopt and use Windows technology in a single organization. The result showed that the determinants of intention to use and actual usage are very different.

The rationale behind these differences has been provided by cognitive dissonance theory (Cummings & Venkatesan, 1976) and people behaviour research (Howard & Sheth, 1969). According to these theories, the perceptions and beliefs of the adopter may be changed after usage behaviour. As a result, beliefs and perceptions held by users may not be the same as the set of beliefs and perceptions that led to the initial adoption (Fen, 2013; Karahanna et al., 1999; Son & Benbasat, 2007).

Fen (2013), Tornatzky and Klein (1982) and Son, Narasimhan, and Riggins (2005) confirmed this logic. They stated that adoption is a prerequisite for usage. Therefore, factors affecting the initial adoption could have the opposite effect on later decisions

to continue to use the innovation. One example regarding this issue is the influence of power exercise in the context of information technology innovativeness. Some researchers found that it significantly affects the intention to adopt (Son & Benbasat, 2007; Teo, Hock Wei, Kwok Benbasat, & Izak, 2003), while others found it insignificant or even with a negative influence on the usage of technology innovation (Hart, Paul Jones, Professor Gary Packham Saunders, & Carol, 1998; He, Ghobadian, & Gallear, 2013; Son et al., 2005).

In summary, adoption research focuses on two different stages, including the pre-adoption stage and the post-adoption stage. The pre-adoption stage involves the intention to adopt and the adoption decision (yes/no). Pre-adoption research focuses on factors that motivate and lead the potential adopter to adopt an innovation. On the other hand, the post-adoption stage involves usage and/or usage intensity. It focuses on factors that motivate the adopter to continue to use the innovation or the degree of usage. In sum, choosing the adoption intention to investigate the low level of information technology innovativeness could be more appropriate than usage or usage intensity, since adoption intention reflects the perception and belief that led to the initial adoption (Fen, 2013; Karahanna et al., 1999; Son & Benbasat, 2007).

In addition, Venkatesh, Davis, and Morris (2007) reported that limited research challenges the basic tenets of intention theories. The next section reviews the work done in prior research.

2.4.1 Overview of prior studies

In information technology innovativeness research, different perspectives have been considered to investigate and to analyse the influencing factors namely, the

efficiency-choice perspective, the institutional perspective, the integrative perspective and the social exchange perspective. The first perspective is oriented towards the examination of intra-organizational factors (Alsaad, Mohamad, & Ismail, 2015; Fichman, 2004; Khalifa & Davison, 2006; Messerschmidt & Hinz, 2013). The second perspective examines the impact of the institutional environment (Messerschmidt & Hinz, 2013; Pearson & Keller, 2009; Shoib, Nandhakumar, & Currie, 2009; Teo et al., 2003; Weerakkody, Dwivedi, & Irani, 2009; Yoon & George, 2013). The third perspective integrates the first and second perspectives (Alsaad et al., 2015; Oliveira, Tiago Martins, & Fraga, 2010a; Yoon & George, 2013). Finally, the fourth perspective examines the role of relationship factors (Al-Hakim, Abdullah, & Ng, 2012; Alsaad et al., 2015; Chong, Chan, Goh, & Tiwari, 2013; Hart, Paul Saunders, & Carol, 1997; Son, Narasimhan, Riggins, & Kim, 2008). The essence of examining the perspective is to see the opinion of the scholars from different angles.

2.4.1.1 Efficiency-choice (rational) perspective

The efficiency-choice (rational) perspective focuses on organizational factors (Alsaad et al., 2015; Barrett, Heracleous, & Walsham, 2013; Basaglia, Caporarello, Magni, & Pennarola, 2009; Khalifa & Davison, 2006; Tan & Fichman, 2002). The major argument of Efficiency-choice (rational) perspective is that the achievement of IT innovativeness depends on the rational decision of the management. Proponents of this perspective argue that the adoption of a new innovation is a rational decision and is independent of any external influence in the social sphere (Lyytinen & Damsgaard, 2011; Tan & Fichman, 2002). They predict that innovation is adopted by rational decision makers who weigh the costs and benefits of available

alternatives and select accordingly (Ansari, Fiss, & Zajac, 2010; Hillebrand, Nijholt, & Nijssen, 2011). They emphasize that the degree of appropriateness of information technology innovation encourages potential adopters to accept or reject it. They stress that the appropriateness of innovation is, in turn, determined by an evaluation of the desirability of innovation and organizational capability (Alsaad et al., 2015; Basaglia et al., 2009; Khalifa & Davison, 2006; Tan & Fichman, 2002).

With regard to innovation desirability, potential adopters first evaluate the innovation characteristics to build cognition of whether or not information technology innovativeness is an appropriate choice. Then they decide whether to reject or to accept the information technology innovation (Alsaad et al., 2015; Khalifa & Davison, 2006; Lyytinen & Damsgaard, 2011; Moore & Benbasat, 1991; Tan & Fichman, 2002). Therefore, the higher the appropriateness of innovation, the more likely it is that the innovation will be adopted (Ansari et al., 2010; Hillebrand et al., 2011; Lyytinen & Damsgaard, 2011; Rogers, 2003). Several theories have been commonly associated with innovation characteristics evaluation, such as technology task fit (TTF), technology acceptance model (TAM), reasoned action theory (TRA), theory of planned behaviour (TPB), resource-based view (RBV) and diffusion of innovation (DOI) (Lyytinen & Damsgaard, 2011). DOI stands out as one of the most popular theories used in adoption research to examine the appropriateness of innovation (Hameed et al., 2012; Mohamad & Ismail, 2009; Sila, 2010).

Meanwhile, Cao, Gan, and Thompson (2013) and Setia, Sambamurthy, and Closs (2008) relied upon TTF theory to examine innovation adoption determinants at the organization level. TTF theory assumes that technology will be used only if there is

technological fit between the requirements of the task and the functions of innovation (Goodhue, Dale Thompson, & Ronald, 1995). System reliability, data quality, ease of use, compatibility and authorization are the major dimensions of this theory (Goodhue, 1998). In the context of information technology innovativeness, Cao et al. (2013) and Setia et al. (2008) found empirical support for the influence of these factors on the adoption decision.

In addition, researchers examined the influence of factors such as managers' support and attitudes, perceptions, and beliefs on adoption decision. For instance, theories such as RBV, contingency, TRA, TAM, TBP or UTAUT have been used to investigate information technology innovativeness and adoption (Chan, Chong, et al., 2012; Gamal Aboelmaged, 2010; Grandón, Nasco, & Mykytyn, 2011; Nasco, Toledo, & Mykytyn, 2008; Oh, Cruickshank, & Anderson, 2009; Quaddus & Achjari, 2005; Yu & Tao, 2009). The main explanation for using these theories at an organization level is that an organization's decision to adopt an innovation is driven by its individual beliefs about the focal technology innovation (Hossain & Quaddus, 2011). For example, Grandón et al. (2011) and Nasco et al. (2008) used TRA and TPB to examine the technology innovation determinants of e-commerce. These theories claim that potential adopters behave rationally. They gather and evaluate information about an innovation, consider the consequences of accepting an innovation, and finally decide whether to adopt or reject it (Hossain & Quaddus, 2011). Furthermore, Oh et al. (2009) and Teo, Thompson, Sijie Lai, and hung (2009) used the TAM model and found that perceived usefulness and perceived ease of use significantly influence the decision to adopt.

Moreover, transaction cost theory (TCT) has been considered by Iskandar, Kurokawa, and LeBlanc (2001), Son and Benbasat (2007) and Son et al. (2005) to determine the circumstances under which organizations should benefit from a particular type of IT innovation, The main concept of TCT is that both internal coordination and external interaction increase the transaction costs. Coordination mechanisms or governance structure should be used to reduce costs.

In this stream of research, scholars have focused on the transaction characteristics and relationship characteristics between partners. For example, Grover and Saeed (2007) examined the influence of demand uncertainty, component complexity, market volatility and market fragmentation. These factors, coupled with an open information-sharing environment, are hypothesized to influence inter-organization system (IOS) usage. The results showed that firms tend to use IOS under three conditions, including (i) high transaction complexity, (ii) presence of an open information-sharing environment and (iii) low market fragmentation.

Furthermore, Son and Benbasat (2007) report that product characteristics, demand uncertainty and market volatility exhibit a significant influence on adoption intent and/or usage intensity.

An equally significant aspect of determining the appropriateness of innovation is organization capability and characteristics. This focuses on a set of internal organizational characteristics that enable the organization to adopt an innovation in successful manner (Fen, 2013; Ghobakhloo et al., 2012; Khalifa & Davison, 2006). B. Ramdani and Kawalek (2007) stated that the rationale behind the influence of organization capability corresponds to RBV theory. It assumes that the organization will exploit its core competencies to gain competitive advantage.

These factors (characteristics) are more discretionary and controllable by the organization and its top management (Damanpour & Schneider, 2006; Ghobakhloo et al., 2012). Scholars investigated the effects of a wide range of organizational factors. Some of them examined the influence of factors related to the organization's ability to adopt innovation successfully. The organization's ability variables, such as IT sophistication, technology readiness, technology competence, IT intensity, information technology infrastructure and back-end capabilities, have been extensively examined (Chan, Chong, et al., 2012; Chwelos, Benbasat, & Dexter, 2001; Ifinedo, 2011; Khalifa & Davison, 2006; Teo et al., 2009; Zhu & Kraemer, 2005; Zhu et al., 2006). In addition, information technology readiness which involves variables such as organization slack, feasibility and financial commitment (Khalifa & Davison, 2006; Tsai, Lai, & Hsu, 2013; Zheng, Chen, Huang, & Zhang, 2013) has been also examined. All of these variables greatly participate in predicting the adoption behaviour.

Other scholars have examined variables related to organizational structure, such as firm size (Al-Hakim et al., 2012; Oliveira et al., 2010a; Teo, Thompson Ranganathan, Dhaliwal, & Jasbir, 2006; Zhu & Kraemer, 2005; Zhu et al., 2006), firm scope (Chan, Chong, et al., 2012; Intan Salwani, Marthandan, Daud Norzaidi, & Choy Chong, 2009; Soares-Aguiar & Palma-dos-Reis, 2008; Yoon & George, 2013; Zhu, Kraemer, & Xu, 2003; Zhu et al., 2006), centralization (Hameed et al., 2012; Ranganathan, Dhaliwal, & Teo, 2004; Unsworth, Sawang, Murray, Norman, & Sorbello, 2012) and formalization (Claycomb, Iyer, & Germain, 2005; Hameed et al., 2012).

Lastly, some researchers follow leadership research. The main idea of this stream is that top managers and organization strategies heavily affect the organizational capability to adopt technology. They are forces that work with or against innovation adoption. These forces are manifested by enabling and motivating lower level managers and employees, establishing organizational culture, building capability for change and adopting new innovation (Ahmad, Abu Bakar, Faziharudean, & Mohamad Zaki, 2015; Damanpour & Aravind, 2012; Damanpour & Schneider, 2006; Ghobakhloo et al., 2012; Hameed et al., 2012). Researchers in this field assume that managers have personal qualities predisposing them to innovate (Slappendel, 1996). Thus, factors such as CEO attributes relating to age, education and tenure (Al-Qirim, 2008; Damanpour & Schneider, 2006; Lip-Sam & Hock-Eam, 2011; Peltier, Zhao, & Schibrowsky, 2012; Shah Alam, 2009), CEO's innovativeness, CEO involvement and support (Al-Qirim, 2007; Liang, Saraf, Hu, & Xue, 2007; Lin & Fen, 2014; Ramdani et al., 2013) (Thong, 1999; Thong & Yap, 1995; Zheng et al., 2013), managerial IT knowledge (Ranganathan et al., 2004; Teo et al., 2006; Zhang & Dhaliwal, 2009), managerial obstacles (Thatcher, Foster, & Zhu, 2006), managerial productivity (Kuckertz & Breugst, 2009) and managerial belief and attitude (Ahmad et al., 2015; Chan, Chnog, & Darmawan, 2012; Gamal Aboelmaged, 2010; Grandón et al., 2011; Nasco et al., 2008; Oh et al., 2009; Quaddus & Achjari, 2005; Yu & Tao, 2009) have been examined.

In conclusion, this perspective assumes that adoption is a rational behaviour and the potential adopter enjoys complete freedom in deciding whether to adopt or reject the innovation. The potential adopter builds his decision based on the cognitive state of innovation desirability and the capability to adopt such technology. The influence of

external environment is almost ignored in this perspective. The following section discusses in detail the role of the external environment in the decision to adopt.

2.4.1.2 Institutional perspective

The second perspective focuses on the influence of the institutional environment on the decision to adopt. Researchers have considered institutional theory as a lens to investigate the effects of the environment. This perspective assumes that organizations' decision and behaviours cannot be explained by highlighting only the rational actions of managers (Hertwig, 2012; Heugens & Lander, 2009; Mignerat & Rivard, 2009; Shoib et al., 2009; Teo et al., 2003). The researchers argue that organizations accept and follow the social norms to gain organizational legitimacy regardless of the actual impact of the innovation on performance (Dimaggio, 1983; Hertwig, 2012; Mignerat & Rivard, 2009; Scott, 1995). In other words, the decision to adopt IT innovativeness is influenced by the normative standard of the industry an organization belongs.

In their seminal work, Dimaggio and Powell (1983) suggest that there are three processes by which an innovation becomes socially accepted, namely coercive, mimic and normative pressures. Coercive pressures refer to those pressures exerted on organizations by other organizations upon which they are dependent. Mimetic pressures appear at times of uncertainty, when organizations will tend to model themselves on other organizations in their field that are perceived to be more legitimate or successful. Normative pressures are pressures exerted by professionalization, such as similar educational backgrounds, inter-organizational networks and mimetic behaviour in a profession (Dimaggio, 1983; Hertwig, 2012;

Mignerat & Rivard, 2009; Scott, 1995). Those pressures make organizational practices and organizational innovations more socially accepted among a particular population. However, empirical research has shown that institutional pressures take a long time to become established in a particular environment. Therefore many researchers have found that institutional pressures play a significant role only in the later stages of diffusion (Beatty, Shim, & Jones, 2001; Jeyaraj, Balser, Chowa, & Griggs, 2009; Shih & Yu, 2012). In addition to the institutional pressures, IS researchers have found that multiple variables in the organization environment have a significant influence on adoption behaviour.

In summary, institutional perspective explains how information technology innovativeness is constrained by environmental forces. An institutional force provides more insights into the complex process of innovation adoption in a business organization where the adoption is not only an internal decision but is also influenced by external environments. The next section elaborates on how researchers integrate the previous perspectives to predict information technology adoption.

2.4.1.3 Integrative perspective

In order to explain how an adoption decision is neither entirely goal-oriented nor uniquely a response to institutional pressure, several studies have integrated the rational and institutional perspective into a single theoretical framework (Messerschmidt & Hinz, 2013; Oliveira et al., 2010a; Soares-Aguiar & Palma-dos-Reis, 2008; Venkatesh & Bala, 2008, 2012; Wong & Boon-itt, 2008; Yoon & George, 2013). The rationale behind this is that both perspectives are necessary for

the actualization of the adoption of IT innovativeness. One of the frameworks that combine both perspectives is the technological organization environment (TOE). The TOE classifies innovation characteristics as technological factors, and organizational characteristics and leadership characteristics as organizational factors; institutional pressures are considered as environmental factors (Oliveira et al., 2010a; Weerakkody et al., 2009; Yang & Yun, 2013).

In general, most prior studies follow this perspective. It explains the high percentage of adoption variance. Also, it permits researchers to include a wide range of variables in each context (Arpaci, Yardimci, Ozkan, & Turetken, 2012; Baker, 2012; Khalifa & Davison, 2006; Oliveira, Tiago Martins, & Fraga, 2010b; Teo et al., 2009).

2.4.1.4 Social exchange perspective

Social exchange theorists propose this perspective. They provide a complementary insight into information technology innovativeness. They understand the adoption of specific technology innovation as a collective decision involving two parties, like buyer and supplier. No adoption can take place without the participation of both parties (Ali, Mazen Kurnia, Sherah Johnston, & Robert, 2008; Lyytinen & Damsgaard, 2011). The receiver (people in the public sector) and the provider (the government) often have different perceptions and interests with regard to the adoption of technology. This, in turn, makes the adoption of this teleology difficult and complex to accomplish (Boonstra & De Vries, 2005, 2008; Kim, Kyung Kyu Park, Seung Ryoo, Sung Park, & Kook, 2010; Turker, 2014). Scholars claim that collective decisions can be explained very well by relationship-related factors,

particularly organizational culture (Ke, Liu, Wei, Gu, & Chen, 2006; Kuckertz & Breugst, 2009; Liu et al., 2010; Mcdermott & Stock, 1999; Seren & Baykal, 2007).

In this perspective, researchers rely on contingency, RDT and social exchange theories to explain the role of relationship characteristics (Hart et al., 1998; Hart et al., 1997; Leweling, 2007; Son et al., 2005; Son et al., 2008; Wiengarten, Humphreys, Cao, & McHugh, 2013), Prior studies have identified several aspects of relationship characteristics that influence information technology innovativeness. Wiengarten et al. (2013) stress the role of organizational culture.

In summary, researchers in this perspective focus on relationship factors, in particular organizational culture. This is because information technology innovativeness is a reflection of the existing relationship between partners. In this manner, these factors provide a complementary view on information technology innovativeness.

To summarize this section, Table 2.1 and Figure 2.1 show that prior studies have used many approaches and several theories to study information technology innovativeness and adoption. Most of the influencing factors can be segmented into four different categories. Foremost among these is the IT innovation diffusion approach. These studies mainly focus on perceptions regarding readiness for an IT innovation, management attitude, financial readiness and managerial knowledge, which are referred to as organizational factors. This study will follow the first category by studying organizational factors. Studies that fall within the first category follow RBV theory and consider organizational factors (see Figure 2.1). The studies in the third category focus on the institutional environment, which refers to environmental factors and institutional forces. Lastly, some research focuses on

transactional factors and the nature of the relationship between firms, otherwise distinguished as relational factors and transactional factors.

However, this study attempts to investigate the information technology innovativeness from the perspectives of efficiency-choice and the social exchange perspective. RBV, contingency, diffusion of innovations and the partial use of the TOE model have the ability to explain the selected perspectives. The next section explores those theories, while the subsequent section discusses their application to information technology innovativeness as it is documented in prior studies.

Table 2.1: Underpinning Theories Used in Prior Studies

Theory	References
Behavioral Theories (TAM,TRA,TPB,UAT UT)	(Chan & Chong, 2012; Gamal Aboelmaged, 2010; Grandón et al., 2011; Nasco et al., 2008)
DOl Theory	(Chan, Chnog, et al., 2012; Chong, Lin, Ooi, & Raman, 2009; Ghobakhloo, Arias-Aranda, & Benitez-Amado, 2011; Hossain & Quaddus, 2010; Pan, Nam, Ogara, & Lee, 2013; Shah Alam, 2009; Sin Tan, Choy Chong, Lin, & Cyril Eze, 2009; Zhu et al., 2003; Zhu & Kraemer, 2005)
TOE Model	(Ahmad et al., 2015; Chan, Chnog, et al., 2012; Chan & Chong, 2012; Chong et al., 2009; Gibbs & Kraemer, 2004; Ifinedo, 2011; H.-F. Lin, 2014; Oliveira et al., 2010b; Pan et al., 2013; Tarofder, Marthandan, Mohan, & Tarofder, 2013; Teo et al., 2009; Zhu et al., 2003; Zhu & Kraemer, 2005)
Institutional Theory	(Gibbs & Kraemer, 2004; Hertwig, 2012; Ke et al., 2006; Ke, Liu, Wei, Gu, & Chen, 2009; King et al., 1994; Kshetri, 2008; T Ravichandran, Han, & Hasan, 2009; Standing, Sims, & Love, 2009; Teo et al., 2003; Thatcher et al., 2006; Tsai et al., 2013; Wong & Boon-itt, 2008; Zhang & Dhaliwal, 2009; Zheng et al., 2013)
Resource Dependency Theory	(Ali et al., 2008; M. Ali, Kurnia, & Johnston, 2009; Hart et al., 1998; Hart et al., 1997; Huang, Fang, & Liu, 2013; Iskandar et al., 2001; Ke & Wei, 2007; Nagy, 2006; Son et al., 2005; Son et al., 2008)
TCT Theory	(Grover & Saeed, 2007; Iskandar et al., 2001; Ke & Wei, 2007; Liu et al., 2010; Mithas et al., 2008; Son & Benbasat, 2007; Son et al.,

	2005)
TTF Theory	(Cao et al., 2013; Setia et al., 2008)
Social exchange Theory	(Burns & Stalker, 1961; Hart et al., 1998; Hart et al., 1997; Son et al., 2005; Son et al., 2008)
Recourse based view Theory	(Caldeira & Ward, 2003; Perrigot & Pénard, 2013; Peteraf, 1993; T. Ravichandran & Lertwongsatien, 2005; Rivard, Raymond, & Verreault, 2006; Wade & Hulland, 2004; Wiengarten et al., 2013; Zhang & Dhaliwal, 2009; Zheng et al., 2013)
Contingency Theory	(Leweling, 2007; Wang, Wei Li, Xixi Hsieh, & PoAn, 2013; Wiengarten et al., 2013)

Source: (Alsaad et al., 2015)

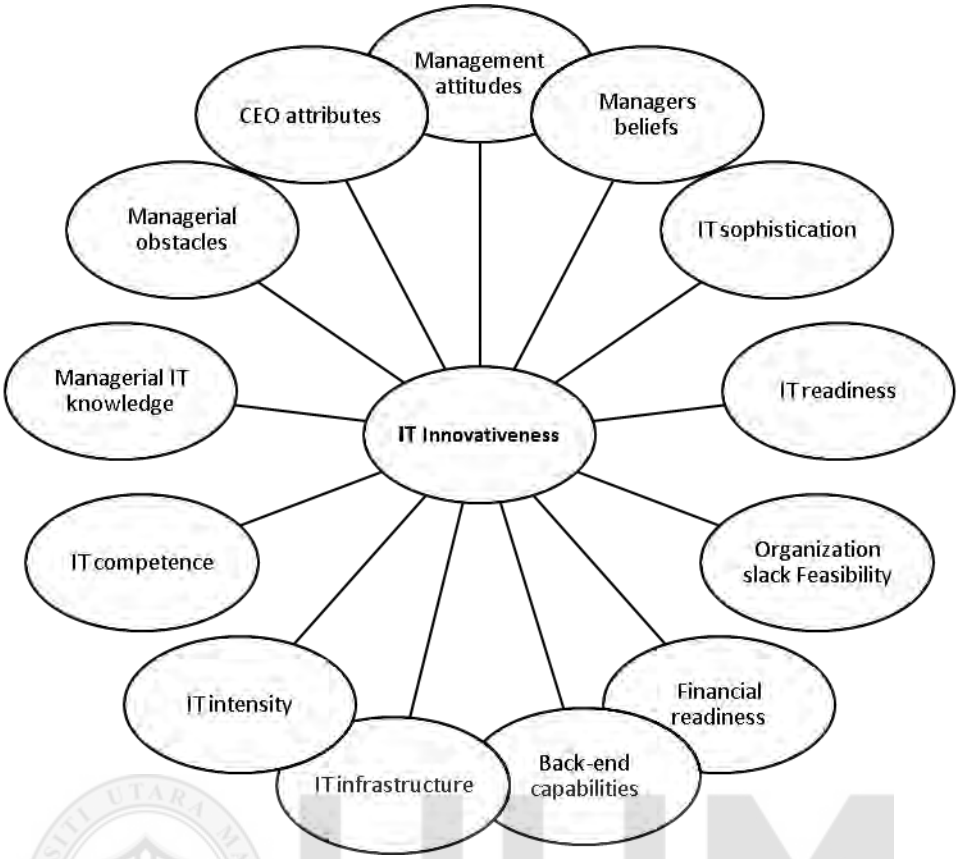

Figure 2.1: Summary of Organizational Factors that Influence information technology innovativeness as Reported in Previous Research
Source: (Jantz, 2015)

2.5 Underpinning Theories

To understand how and why innovativeness takes place, it is essential to rely on the available theories. Some theoretical perspectives focus on human behaviour and organizations' willingness to innovate and adopt, while other theoretical perspectives focus on economic benefits or institutional pressure (Weber & Kauffman, 2011). This section study discusses RBV, contingency, the diffusion of innovation theory (DOI) and the TOE framework to support the research proposition.

2.5.1 Resource-based view

According to the resource-based view, an organization is defined as a collection of resources (Barney, 1991; Foss, 1998; Perrigot & Pénard, 2013). An organization's resources include all assets, capabilities, organizational processes, knowledge and so on that enable the organization to conceive and implement strategies that improve efficiency and effectiveness (Barney, 1991; Zheng et al., 2013). In other words, by continuously acquiring and developing tangible and intangible resources and distinctive skills, an organization can create barriers to entry and obtain a competitive advantage (Perrigot & Pénard, 2013; Peteraf, 1993). However, to provide a sustainable advantage, a resource has to be valuable, rare, inimitable and not substitutable (Barney, 1991; Perrigot & Pénard, 2013). Moreover, the resource-based view posits that innovative strategies for example, information technology are strongly driven by existing resources, which means that an organization conceives its strategy as a fit with its capabilities and exploits its available resources to yield activities (Perrigot & Pénard, 2013).

The resource-based view has been used or partly used in combination with other theories to explain factors affecting information technology innovation (B. Ramdani & Kawalek, 2007). Iacovou, Benbasat, and Dexter (1995) define organizational readiness as "the availability of the needed organizational resources for adoption". They found this factor to influence EDI (electronic data interchange) adoption. Chau (2001) argues that one of the main inhibitors of EDI adoption among SMEs is not possessing sufficient knowledge and skills about the technology. Mehrtens, Cragg, and Mills (2001) found that adoption inside the firms is influenced by organizational readiness, which includes the ability to invest in technology innovativeness,

represented by financial resources. Thong (2001) examines resource constraints on information technology implementation in Singaporean firms. His results show that organizations with successful information technology innovativeness tend to have adequate information technology innovation readiness and high management support. Caldeira and Ward (2003) identify two factors that determine relative success in the adoption and use of information technology systems in selected manufacturing SMEs: management perspectives and support towards information technology systems adoption and use; and development of internal information technology systems competencies. Management perspectives in this study are represented in the public sector by the government strategy.

Zheng et al. (2013) developed and tested a theoretical model to investigate the adoption of government-to-government (G2G) information systems in public administration organizations. Specifically, this model explains how top management support affects new technology innovativeness, which finally leads to the adoption decision. In particular, top management support towards new technology adoption to a large extent reflects the beliefs and behaviours of the top management. Indeed, top management support means that the top management in an organization believes in and signals the importance of a technology to the organization (Lewis, William Agarwal, RituSambamurthy, & Vallabh, 2003). This support has been identified as one of the organizational capabilities in RBV (Wade & Hulland, 2004; Zheng et al., 2013). Studies applying RBV theory suggest that it is practical organizations who achieve better with technology innovativeness for the reason that they use it to support their policies and strategies, and for the reason that they advance technology innovativeness capabilities (Caldeira & Ward, 2003; Rivard et al., 2006). Yeh, Lee, and Pai (2012) Another empirical study in Taiwan about information system

capability used the resource-based view theory, and stated that organization strategy is one of the important intangible organization resources. Zhang and Dhaliwal (2009) study the resource-based theoretic factors in technology adoption, and contend that the ability to invest in technology is one of the organization's capabilities. Caldeira and Ward (2003) mentioned that one of the capabilities and resources is managerial knowledge, which includes strategy. Zhu and Kraemer (2005) in their research used information technology readiness as a financial recourse required for technology innovativeness. In the same research findings, they state that the resource-based theory suggests organization strategy as an important source of technology innovativeness value.

Here, we use RBV (Barney, 1991; Perrigot & Pénard, 2013) to investigate the determinants of government information technology innovativeness. This theory hypothesizes that internal resources, competencies and capabilities (tangible and intangible assets, knowledge, etc.) are key drivers for information technology readiness strategy and, as a result, affect government information technology innovativeness. Top management support, information technology readiness and government strategy are relevant and valuable resources and capabilities to measure government information technology innovativeness. Technology innovation research conducted by Venkatesh and Bala (2012) stated that future related work should employ RBV theory.

Basically the RBV used in this study to support the influence factors (management support, IT Readiness and government strategy) in the study information technology innovativeness.

2.5.2 Contingency theory

The concept of organizational culture is one of the most powerful but also most controversial concepts in management research and practice (Deshpandé, Farley, & Webster Jr, 1993; Liu et al., 2010). Organizational culture is defined as comprising the assumptions, values, norms and customs of the organization and its members, and their interpersonal relationships affect their work and operating outcomes (Seren & Baykal, 2007). It is like the personality of an organization what makes the organization unique (Mcafee, Bruce Glassman, Myron Honeycutt, & Earl, 2002).

As argued by contingency theorists, to be effective, an organization's practices must be consistent with other aspects of the organization, especially factors that are human-related (Delery & Doty, 1996; Greening & Gray, 1994). In this regard, scholars have increasingly realized that organizational culture could play a key role in decisions such as adopting new technology (Liu et al., 2010; Mcdermott & Stock, 1999). Specifically, it is suggested that organizational culture can impact management decisions (Liu et al., 2010). For example, (Huang et al., 2013) proposed that organizational culture can stimulate innovative behaviour among the members of an organization since it can lead them to accept innovation as a basic value of the organization and can foster commitment to it.

The contingency perspective has been used to explain factors affecting information technology innovativeness (Hermanrud & Eide, 2010). Garnett, Marlowe, and Pandey (2008) studied the moderating effect of organization culture in public institutions and how significant the effect of the organizational culture is on governmental institutions' working process in the public sector. Another study conducted in the same research area in the public sector used the contingency theory.

Leweling (2007) linked strategic choice and organizational culture by using the structural contingency theory.

Based on the contingency perspective, we propose that the focal organizational culture moderates the relationship between management support, information technology readiness, government strategy and government information technology innovativeness.

2.5.3 Diffusion of innovation theory (DOl)

Rogers introduced this theory in 1962. It is one of the most popular theories used to study information systems and technology innovativeness (Abdul Hameed & Counsell, 2012; Mohamad & Ismail, 2009; Pervan, Bajwa, & Floyd Lewis, 2005; Weerakkody et al., 2009). This theory explains innovation diffusion as a process by which an innovation is communicated through certain channels over time among the members of a social system (Rogers, 2003).

2.5.3.1 Background to IT innovation adoption

In the past two decades, understanding information technology innovation adoption has become a key goal of both researchers and practitioners. The basis of information technology innovation adoption research has been the link to diffusion of innovation (DOI), a theory introduced by (Rogers & Shoemaker, 1971). Diffusion of innovation provides insights into the organizational factors that influence the adoption of innovation. Originally, DOI was related to individual level adoption; however, integrating DOI with other models, researchers have investigated innovation adoption in organizations. Besides organizational factors, studies of innovation adoption in organizations have considered other dimensions within the

organization that influence the adoption of IT. For example, the technology organization environment (TOE) framework suggested by Tornatzky, Fleischer, and Chakrabarti (1990) identifies aspects of technological, organizational and environmental characteristics that influence organizational adoption of IT. Likewise, Kwon and Zmud (1987) identified five categories of factors organizational, technological, environmental, task and individuals that can influence the adoption of IT by an organization. Thong (1999), in a study of information technology innovativeness in governmental institutions, identified the organization variables.

As stated in this definition, there are four elements of innovation diffusion: innovation, time, communication channels and social system. Table 2.2 shows the definition of each element.

Table 2.2: Diffusion Innovation Elements

Items	**Description**
Innovation	An idea, practice, or project that is perceived as new.
Time	Length of time required to pass through the innovation-decision process.
communication channels	A process in which participants create and share information with one another in order to reach a mutual understanding.
Social system	A set of interrelated units engaged in joint problem solving to accomplish a common goal.

Source: Rogers (2003)

For Rogers (2003), the adoption of an innovation involves a decision making process. It involves activities of information searching and processing. The adoption process goes through five stages. This process starts with the knowledge stage, where the potential adopters become aware of the existence of innovation. In the next stage, the persuasion stage, the potential adopter engages in information search and gathering activities to shape a favourable or unfavourable attitude towards an

innovation. The potential adopter is heavily influenced by the innovation characteristics at this stage. Subsequently, the potential adopter in the decision stage weighs the advantages and disadvantages of using an innovation and then decides whether to accept or reject the focal innovation. Rogers (1985) argued that the innovation characteristics account for between 49 per cent and 85 per cent of the adoption of any innovation. If the innovation is accepted, the adopter will proceed to the implementation stage, where an innovation will be put into practice.

For Rogers, potential adopters hold different degrees of willingness to adopt an innovation. As a result, the decision to adopt an innovation is generally distributed over time (Rogers, 1995). Rogers classified the adopters into the following five categories: innovators, early adopters, early majority, late majority and laggards (Rogers, 1995). Further, Rogers' empirical work showed that adoption has a lifecycle and it follows the pattern of an S-shaped curve. Rogers explained that in the initial stage of the lifecycle of innovation, the proportion of adopters is low. With the passage of time, the proportion of adopters regularly increases until it reaches the peak in the mature stage of the lifecycle of innovation. However, the adoption rate will decrease in the final stage of the lifecycle of innovation.

The DOI theory at the organization level identifies three influencing contexts affecting the organization’s innovativeness: these are management characteristics, organizational strategy and structure, and the organizational readiness and openness. DOI suggests that the presence of leaders' positive attitude towards change, higher organizational readiness and organization structure positively affect an organization's innovativeness, while formalization and centralization negatively affect an organization's innovativeness.

Prior studies have used DOI to demonstrate the adoption of information technology innovativeness and adoption. Researchers have restricted its ability to explain information technology innovativeness (Sugarhood et al., 2014; Thatcher et al., 2006; Zhu et al., 2003).

2.5.4 TOE model

The TOE is one of the most commonly used models to explain technology innovativeness and adoption. (Tornatzky et al., 1990) built this model based on contingency theory, which postulates that an effective organizational structure should fit with its organizational and environmental needs (Lawrence & Lorsch, 1967). Tornatzky et al. (1990) emphasized that the adoption of an innovation in an enterprise is a multidimensional decision influenced by factors from several contexts. In this model, Tornatzky and colleagues identified and classified the factors that influence innovation adoption into three contexts: the technological, the organizational and the environmental. The three contexts of this framework act as opportunities and/or constraints for technological innovation (Tornatzky et al., 1990).

TOE has been partly used in this research to include the organizational context dimensions and factors. Organizational context refers to the organization's characteristics, weaknesses and resources. These factors may hinder or facilitate information technology innovativeness. Common organization characteristics include centralization, formalization, managerial structure, the available slack resources and the quality of its human resources (Tornatzky et al., 1990).

Many studies have indicated that the TOE model is consistent with other adoption theories such as DOI (Arpaci et al., 2012; Thatcher et al., 2006; Yoon & George, 2013; Zhu & Kraemer, 2005). For example, the innovativeness adoption predictors in DOI include individual leader characteristics and internal organization characteristics, which are considered compatible with the organizational context of TOE. Finally, researchers have implicitly emphasized that Rogers's innovation attributes are compatible with the TOE's contexts (Baker, 2012; Thatcher et al., 2006; Zhu & Kraemer, 2005).

Scholars agree that the TOE model is a useful analytical tool to study information technology innovativeness determinants. However, they also believe that it lacks theoretical foundation and is just an arrangement or classification of variables (Dedrick & West, 2003; B. Ramdani & Kawalek, 2007; RUI, 2007; Zhu & Kraemer, 2005). RUI (2007) stated that the TOE framework does not provide causality among the factors that have been provided and that the underlying decision making process is unclear. Furthermore, the TOE framework does not offer adequate constructs to explain interorganizational behaviour (Chan & Chong, 2012; Hsu, Kraemer, & Dunkle, 2006). Thus, Barrett et al. (2013) argued that TOE is more useful in explaining intra-organizational innovation adoption.

Despite the above limitations, the TOE framework presents a valuable starting point in analysing several factors that can help in understanding information technology innovativeness. Because it has consistent empirical support, this study will adapt the organizational factor in this model as a theoretical lens to achieve the objective of this study.

To summaries of each theory used in the study, we can say that the RBV theory used to support the whole information technology innovativeness model with focus of the organizational factors (management support, IT readiness, Government Strategy). The contingency theory used to strengthen the role of the organizational culture, the diffusion of innovation theory used to support and strengthen the innovativeness part in the model TEO model consider as apart of diffusion of innovation theory in this study the TEO model partly used, the use of TEO was limited to the organizational factors in the model.

2.6 Elements for Government Information Technology Innovativeness

The definition of government information technology innovativeness is adapted from the definition by Venkatesh and Bala (2012) for organization innovativeness as being an openness to new information technology ideas in governmental institutions. Similar to the majority of innovation adoption models developed in the innovation and diffusion literature, the model of information technology innovativeness in this study is based on measures by Venkatesh and Bala (2012) for government information technology innovativeness. Cho and Kim (2002) research results show how important management support is for organization technology innovativeness. Wang et al. (2012) measure the government strategy towards technology innovativeness; Mithas et al. (2008) itemize information technology readiness; and the original instrument for organizational culture items is drawn from Gold, Malhotra, and Segars (2001).

However, this research focuses on government information technology innovativeness as a process that occurs over time. In other words, public sector institutions generally proceed through varying degrees of government information

technology innovativeness that occur over time. As such, the goal of this research is to improve and test a model of public institutions in Gaza Strip adoption or rejection of information technology innovation.

According to Venkatesh and Bala (2012), the significant effects of the resource-based view theory contribute significantly to the structure of this study's model of public sector institutions' innovativeness with regard to government information technology innovativeness. Zheng et al. (2013) ideal differs from some other theories of technology innovation adoption in that it incorporates the effects of the implementation and adoption of information technology innovations.

A significant number of past technology innovation implementation and adoption studies have either marginally examined the effects on innovation implementation and adoption or excluded the effects altogether. However, given the structure and the nature of public service and governmental work in the Gaza Strip, the incorporation of effects into any government information technology innovativeness is crucial to provide a greater understanding of factors influencing information technology innovation adoption decision making within the public sector (Seng & Mohtar, 2012). This section in the literature will elaborate the proposed factors and determinants of government information technology innovativeness, management support, information technology readiness and government strategy, with consideration of the moderating effect of organizational culture.

2.6.1.1 Management support

Nowadays governments operate in an environment characterized by the rapid pace of technological change (Shokralla, Spall, Gibson, & Hajibabaei, 2012). It is

essential that governments reinvent themselves, as they face many tests such as the complexity of providing public services and the constant change in the nature of governmental work and publicity within institutions. This change requires management support of government information technology innovativeness (Lewis *et al*, 2013).

Furthermore, public institutions are looking to improve their managerial methods and goals in line with environmental circumstances by adjusting the organizational culture in line with technology. Given that technology improvement and growth is racing ahead, more and more attention is being paid to the influence of technology on organizational culture (Vaccaro, Jansen, Van Den Bosch, & Volberda, 2012).

In addition, the role of management appears to be crucial in achieving synergy between the activities and operations in public institutions, because management is an important source to achieve organizational goals. Management is responsible for understanding the organizational principles and values of its employees and workers, in addition to generating synergy and compatibility between them (Manna, 2012; Turban & Volonino, 2010).

On the other side of government information technology innovativeness, the outstanding role played by management support becomes obvious in the light of the success of various organizations (James *et a.l,* 2012). This requires considering the importance of management support in creating and providing situations where goals can be successfully accomplished to calm the needs of the organization, giving them greater self-government, creativity and innovativeness (Ifinedo, 2007).

We found that management support is a critical and significant issue in the implementation and adoption of information technology innovation in local government in the Gaza Strip that leads to achieving and maintaining a critical advantage. There is frequent recognition of the dynamic role played by management in identifying and taking advantage of opportunities and making decisions on government information technology innovativeness to add value to public institutions and governments working process (El-Ghorra, 2011; Elenkov, Judge, & Wright, 2005). The interface between management and innovation has received significant attention by researchers (Kim, Dong Kumar, Vinod Kumar, & Uma, 2012; Sharma, Srinarayan Rai, & Arun, 2003; West et al., 2003).

Many studies that examined the relationship between top management and innovation to show that management support positively affects information technology innovation and that there is a positive connection between innovation and governmental initiation (Bowen, Rostami, & Steel, 2010; Ryan & Tipu, 2013). The underlying forces of working conditions in evolving countries pose challenges to management, where the necessity for government information technology innovativeness stands out as a main contributing tool to achievement of sustainable benefit for survival in the public sector (Chandiwana, 2013).

Consequently, management plays an essential role in the detection of information technology innovations given a suitable environment, and in making polices that enhance the successful creation and execution of understanding (Mason, 2015).

Many researchers have stated that management support plays an important role in organizational consequences (Agbim, 2013; Chahine & Goergen, 2013). Further researchers still have recommended that management support has a key role in

encouraging the adoption of information technology innovative activities in organizations (Denti & Hemlin, 2012; Kim et al., 2012; Makri & Scandura, 2010). López Sánchez and Santos-Vijande (2016) found that there is a relationship between management support and innovativeness. They argue that management support top in term of provision of necessary resources, giving priorities to needs, and actively involved in the delivery of project has impact on innovative service delivery.

2.6.1.2 Standpoints on the impact of management support of information technology innovativeness

Government information technology innovativeness is a process whereby directors spread an information technology into a civilian user community (Mergel, 2013b). The management support is thought to be critical for information technology innovation implementation success in the public sector (Elbanna, 2013).

Many of the studies have examined the impact of management support on information technology innovation implementation outcomes. It has been found that management support significantly affects technology innovations (Bose & Luo, 2011), institutional success (Popovič, Hackney, Coelho, & Jaklič, 2012), progressive use of information technology innovation, and organizational information technology innovation adoption (Venkatesh, Thong, & Xu, 2012).

These researches differ in their viewpoints relating to the effect of management support, and different findings have been reached. For example, many researches shed light on the effect of management support, contending that there are three perspectives relating to the effect of management support on information technology innovativeness (Mergel & Bretschneider, 2013).

Underlying the information technology innovation background, the management comprises a group of senior managers appointed to oversee the progress of the information technology innovation implementation and adoption. There are three perspectives on management support and reaction to any new change in the public establishment (Mergel & Bretschneider, 2013). These are examined further below.

2.6.1.2.1 Management support deterministic perspective

The deterministic perspective assumes that management support leads to positive information technology innovation adoption results, including system implementation achievement, enhanced user satisfaction, and improved governmental institution performance (Wixom & Watson, 2001; Zhuang, 2011). As an outcome, management support is treated as a direct predictor of government information technology innovativeness achievement.

Therefore, in terms of the important supportive movements of top managers, top managers are critical for securing the personnel and financial resources required (Cheng, 2012). Lacking resources can rapidly result in user unimportance or implementation (Alatar, 2012), and an information technology innovation adoption and implementation without the support of management often leads to system desertion (Kwok, Lam, & Li, 2013). In addition, top managers are serious about the promotion of changes. An absence of change administration may result in a lack of commitment to new standards (Johnston et al., 2014), an inability of rooted management systems to support and share new values (Alavi & Leidner, 2001) or a failure to anticipate organizational opposition to change (Chen et al., 2010).

In addition, the deterministic viewpoint is straightforward and instinctive, and, not surprisingly, it is extensively modified by information technology implementation and adoption researchers and has received new support (Al Shaar, Khattab, Alkaied, & Manna, 2015; Russell et al., 2012).

2.6.1.2.2 Management support contingency perspective.

The contingency perspective recommends that the impact of management support is dependent upon task interdependence. As argued by Sharma, Rajeev Yetton, and Philip (2003), innovative implementation of information technology with great mission interdependence (Sharma, Rajeev Yetton, et al., 2003), p. 538). Management care is necessary to support, institute and legitimize the new institutional goal. Sharma and Yetton determine that the impact of management support is context specific (Sharma, Rajeev Yetton, et al., 2003), p. 538): it is weak when job interdependence is low, but strong when job interdependence is high.

The dependent and contingent standpoints show mixed findings, as revealed by the deterministic standpoint. For example, in a study on information technology innovation adoption dispersal, Jantz (2015) discovered that management support considerably and confidently affects innovation dispersal but does not affect the internal government information technology innovativeness diffusion.

According to the dependent perspective, since government information technology innovativeness requires high integration externally rather than internally, management support adaptation is more important externally than internally.

2.6.1.2.3 Active management support perspective.

The dynamic or active perspective of management support emphasises the varying levels of support in the sequence of an information technology innovation implementation and adoption (Dutta, Roy, & Seetharaman, 2013). Research shows that top managers can contribute to task failure by continuing to provide resources to doomed projects (Madden, Duchon, Madden, & Plowman, 2012). However, they can also make a project successful by regulating resource provision and varying project leadership (Aragón-Correa, García-Morales, & Cordón-Pozo, 2007).

The active perspective highlights some important ideas. Firstly, the positive and linear connection between management support and innovation employment success does not essentially exist; also, too much support might negatively affect innovation employment outcomes (van Loon & Toshkov, 2015). Secondly, top managers can learn over time, and build on their knowledge, change their ideas and, therefore, the nature and level of support (Dong, 2001; Wu, Sibin Levitas, Edward Priem, & Richard, 2005). Consequently, the impact of management support may change depending on how well top managers regulate the nature and level of their supportive movements during an information technology innovation employment process.

2.6.1.3 Relationship between management support and information technology innovativeness

Management support establishes the cooperation of individuals answerable to the management of the governmental institution, principally in formulating and executing strategies for change (Chen, Guoquan Tjosvold, Dean Liu, & Chunhong,

2006). Some researchers have established that a manager's direction can be distinguished from demographic features and from the team's arrangement (Wu & Liang, 2008). Other research has recommended that the arrangement of the management support has an influence on governmental institution decisions to commit capital for government information technology innovation adoption and implementation (Yigitbasioglu & Irani, 2015).

The results of research on the reality of any direct connection between management support features and government information technology innovativeness indicate that in earlier works, like that by Wally and Becerra (2001), no connection was found between government information technology innovativeness and management support. Furthermore, studies have identified results in relation to management support (Schechter et al., 2015).

These inconsistencies and the shortage of findings have inspired a new line of thinking alongside Rogers' theory that governmental institution decisions and results cannot be explained by management support alone. Some researchers address other issues that affect government information technology innovation implementation and adoption.

Some authors attribute significance to the conflict that could result from variations in the characteristics of top administration and managers in public institutions and the government, as well as in how they cooperate with one another (Gatautis, 2015).

Given the previous arguments, this study suggests that specific management support guarantees that decision makers will recognise the importance of common understanding for information technology innovation implementation and adoption,

exchange of information, and the opportunity to reach a consensus (Michel & Hambrick, 2002).

Therefore, a suitable level of agreement within management as to the significance of information technology innovation implementation for the government is seen as a need for the support of government information technology innovation implementation and adoption. One of the objectives of this research is investigate the impact of management support on government information technology innovation implementation and adoption.

2.5.2. Relationship between information technology readiness and information technology innovativeness

Information technology has become a public figure in the competitive and developing stance of today's institutions. Several organizations have invested in and become reliant on information technology readiness. This is understood to be the case in the professional, enterprise, national, and public service stages and in e-government (Gordon, 2014).

In order to achieve IT innovativeness from the perspective of IT readiness, Dyerson, Spinelli and Harindranath (2016) state that the IT readiness is influenced by strategic motivation, technology complexity, project management and IT processes. Based on this, the heavy force behind government investment in information technology innovativeness seems to be strategically oriented (Huscroft, Hazen, Hall, & Hanna, 2013). However, according to Blomström, Globerman, and Kokko (2001), the implementation of information technology innovation by governments may not be acceptable and in fact may not deliver the strategic assistance primarily envisaged.

Interestingly, Montealegre (2012) contends that if governments are to gain an advantage through investing in government information technology innovation, then they are required to think about how they conduct their work by redesigning government strategy.

If governments plan strategically to obtain the fullest possible government information technology innovativeness, then they are required to assess its indirect and direct rewards and costs prior to its employment and implementation, as investments in government information technology innovativeness can form a significant part of a government's capital spending (Wixom & Watson, 2001).

Because government information technology innovativeness is a big investment, many governments find it hard to defend its readiness in relation to its perceived low benefit. It is important for management to be certain that readiness in government information technology innovativeness is defensible (Gao, 2015).

Gerst (2011) proposes that governments characteristically defend their investments in an unofficial source by making decisions based on individual observations of possible benefits and costs. On the comparable note, Colecchia and Schreyer (2002) recommend that one of the main difficulties governmental institutions have in creating real information technology readiness is their inability to measure and predict the outcome benefits.

2.6.1.4 Importance of information technology readiness

The old style of appraisal technique used to defend readiness in information technology has received great consideration in recent years. This increasing interest

is attributable to the large sums being spent on the adoption of new technologies by governments to serve their people and to improve t governmental work, and the increasing need to justify significant investment expenditure on information technology or new technology that my help the government (Yang & Zehuan, 2012). Management are not satisfied with the available set of methods used to defend their investment in information technology (Doherty, 2013).

Crowder (2013) proposes that explanations and justifications used by management are characteristically grounded on the use of old methods, which are insufficient for strategic decision-making. The old methods lack precision in the explanations and evidences that management propose.

Blomström et al. (2001) have established that management is inclined to be biased when considering information technology readiness decisions, mainly because managers in the public sector do not have a framework by which to assess their information technology readiness. Management gives less consideration to the indirect costs associated with information technology readiness, which can be up to four times more than its direct information technology cost constituent (De La Potterie & Lichtenberg, 2001). The suggestion of ignoring unintended costs can have widespread consequences for governments.

Research undertaken by Yildiz, Bilgehan Ustaoglu, Murat Incekara, and Ahmet (2014) found the process of investment defence was a main barrier to adopting and implementing information technology innovation in several governments. Yildiz and colleagues classified the government's perception of an investment defence as an economic process that gives the final decision on the success of an information technology readiness suggestion. Therefore, managers may view an information

technology readiness justification as an obstacle that has to be surmounted, and not as a method for evaluating the information technology innovation.

This has considerable consequences, as through the preparation of an information technology readiness plan, managers may take too much effort and time examining the technical characteristics of information technology innovation and thus become committed to the idea that, from a practical standpoint, the investment is critical. Additionally, managers may well simply be vulnerable to persuasion by software consultants and developers, and be ready to accept unusual models, which show unrealistically high levels of information technology readiness (Carter, Richard Strader, Troy Rozycki, John Root, & Thomas, 2015).

2.6.1.5 Cost and benefits effects of information technology innovativeness

The costs of technology are often thought to be easier to estimate than the benefits. Al-Htaybat, Abdulrahman, and Awad (2013) say that this is seldom the situation. The costs related to information technology readiness seem more tangible in nature because the expectations and requirements on which they are created are often not completely recognized, or are poorly understood by management. Definitely, information technology innovation is generally measured broadly during the investment policymaking procedure to account for the greater evaluation of costs and the lower estimation of benefits.

Dehning, Richardson, and Zmud (2003) contend that those responsible for implementing and adopting information technology innovation in governmental institutions are completely committed to the success of the information technology readiness and regularly discount the cost implications of governmental readiness,

thus advocating positive assessments of benefits and budget savings. In this scenario, the failure to identify the complete cost implications, coupled with the promotion of positive savings and benefits, can lead institutions to a decrease in productivity and affordability due to the lengthy use of out-of-date information technology.

As additional governmental institutions employ information technology, many are progressively expressing their struggle and identifying the difficulty associated with its justification. The assessment of government information technology innovativeness is an essential part of a government working procedure cycle but remains subjective in its methodology. While many of the rewards offered by information technology innovation are suitable for inclusion within traditional accountancy frameworks, information technology innovation has intangible and non-financial benefits, added to the indirect costs of information technology readiness, which are considered to complicate the justification process (Bonina, 2012).

Malloy (2013) clarifies that because of the limitations characteristic of old style investment assessment techniques, many governmental institutions are often forced into new of justification. The preventive use of traditional assessment methods favours the analysis of measureable benefits and budgets, and disregards the broader intangible and non-financial consequences of information technology innovation implementation and adoption (Collins, 2011). Also, there are effects regarding the inability of such methods to account for the complete measurement of costs connected with information technology innovation implementation and adoption, added to the associated human and governmental institution implications (Holzinger, Lehner, Fassold, & Holzinger, 2011).

Therefore, problems are not only being extended regarding the value of different appraisal techniques, but similarly there are implications associated with their limitations (Bockarova, 2014).

2.6.1.6 The significance of technology benefits

In recent years many studies have shown that the benefits from technology innovation have been significantly as expected when the projects were ordered (Mintzberg & Westley, 1992).

While there is debate amongst economists (Modigliani and Miller (2005) about how to measure efficiency, and a probable bias against identifying the benefits that information technology innovation currently delivers, there is an extensive belief that organizations should be able to exploit and extract more worth from information technology innovation implementation and adoption.

Ramirez, Melville, and Lawler (2010) remark that all too often the reality is that we cannot validate a link between what the organizations spend on information technology innovation and the benefits. Leaving aside opinions about the economic measurement of the level of information technology innovation adoption and implementation, there are three methods to solve this problem.

I. Raise the level of benefits from information technology readiness.
II. Increase the degree of information technology readiness.
III. A combination of the above.

2.6.2 Government strategy

The research provides an argument for an information technology innovativeness strategy how governmental quality can be bettered, which is particularly relevant for governmental self-assessment of strategy in information technology innovation implementation and adoption.

A government's information technology innovativeness strategy must be closely connected to the government vision and overall governmental institution strategies (Iveroth, Fryk, & Rapp, 2013), according to both relevant and comprehensive information from inside governmental institutions. In addition, communication and direction management are strengths in a strategy for government information technology innovativeness (Nawaser, Shahmehr, Kamel, & Vesal, 2014). Therefore continuous improvement of information technology innovation are based on the governmental institution's ability to learn and be creative (Rutten et al., 2014).

Researchers argue that a comprehensive strategy is needed when formulating strategies for information technology innovativeness (Iveroth et al., 2013). The emphasis of this section is on achieving superiority in strategic planning in information technology innovation administration, explaining the full situation in which innovation takes place namely the strategies regarding information technology innovation and learning organizations (Martensen & Dahlgaard, 1999).

2.6.2.1 Expressing strategies for government information technology innovativeness

2.6.2.1.1 Reason and result

Based on the inclusive research, there is eight relevant steps in strategies for an organization's information technology innovativeness (Trautmann & Enkel, 2014). Today's governmental institutions must continuously develop and adapt the innovation (Eom, 2014; Ifinedo, 2007).

Furthermore, institutional excellence, among other effects, will be accomplished by institutions which can react rapidly to new conditions and public requirements (Clayton, Spinardi, & Williams, 2014), and which repeatedly look for innovative and information technology innovative solutions and incessant development of public services and procedures (Donnelly, Gibson, & Ivancevich, 2007).

It is also important to highlight how the government follows the innovation and knowledge process towards more active routines and procedures so that governmental institutions will be able to deal with the challenges of future innovation processes (Nieuwenhuis, 2012).

2.6.2.2 Relationship between government strategy and information technology innovativeness

Several researches show that it is important for government strategies to connect information technology innovativeness to overall governmental strategies and

visions (Rashidi et al., 2014; Teece, 2007). Management should develop a clear vision for the governmental institutions.

The vision can be thought of as an institution's probable and required future state, which is consistently an improvement on the current situation (Friend & Jessop, 2013). In addition, the vision must include what leaders think of information technology innovation adoption and the new service in general for example, how leaders expect the development of the goals to be achieved, and what the strengths are of the new public service or governmental process (Rego, Sousa, Marques, & e Cunha, 2012).

According to Carlo, Gaskin, Lyytinen, and Rose (2014), ongoing strategy planning has to be formulated, where information technology innovations are a main concern. It is not enough in the long term to improve and present public service and governmental process as a response to environmental conditions: cooperation between all governmental departments and institutions will hardly be attained under these circumstances.

Hsing, Yin, Teng, and Hsu (2013) say that a complete governmental strategy must involve a comprehensive strategy for information technology innovativeness to serve the public and governmental procedures, linking new information technology innovation strategy to the institution's goals and setting up strategies for which technologies to choose and what kind of screening criteria to use.

2.6.2.2.1.1 Governmental strategy procedure and how it connects to information technology innovativeness

One method to assure a close connection between a technology innovativeness strategy and the overall governmental strategy is to develop new procedures. New procedures must include subjects like (Sohail, 2013):

I. Role of new procedure and public service.
II. Improvement expenditure and investment budget for the information technology.
III. Human resources requirements.
IV. Publicity satisfaction objectives.
V. Other development manners.
VI. Top management expectations.

Therefore, the procedures determine the aims of governmental procedure activities would and communicate the governmental objectives. In addition, a new governmental procedure strategy defines how the information technology innovation will be implemented.

There should be a close connection between the governmental objectives as a whole and its information technology innovation strategy (Ndou, 2004). It should be intensive and rich in its aim, so that people are able to interpret it as a considered and active level of working with new governmental procedures. This takes place in a separate plan (Sharaf, 2010).

2.6.2.2.1.2 Evaluation of costs and benefits of different choices

The new governmental procedures plan must map out the essential resources necessary to achieve the roles set up for new governmental procedures related to the information technology innovation (Robinson, Huang, Guo, & Porter, 2013). This includes key people and funds. What are the resources required for a project's integrity, transparency and accomplishment? Information technology innovations are very frequently seen as something of a game from the governmental perspective, especially the local government in the Gaza Strip. This regularly results in projects short of time, budget and people. It is one reason for the great disappointment rates found in the new governmental information technology procedures today (Sohail, 2013).

Capacities to address are:

I. An approximation of the financial resources of the government's R&D plans.
II. An explanation of how the resources are arranged and apportioned to strategies.
III. Future requirements and provision of capabilities.
IV. Human resources and competences.
V. Technical resources and capabilities.

2.6.2.2.1.3 Preparation of government information technology innovativeness strategy

Achievement is not only a question of attaining capabilities or skills within a sole strategy component. Achievement is a multidimensional perception, and there is interaction between each achievement principle (Agbim, 2013). An effective

information technology innovation strategy must be based on evidences, supplemented with institutional learning and creativity to manage the concept of change, and have the capability to expand a governmental institution's creative capacity (Sharma, Rajeev Yetton, et al., 2003).

Sapprasert and Clausen (2012) stated that information technology improvement strategies can be seen as a mixture of answers to two questions:

- What abilities are already there and we can we do?
- What is technologically possible for the technology push?

As a result of the strategies which are based on the facts and constantly developed throughout the implementation and adoption process, and flexible in a controlled way and an enhanced ability to achieve and sustain innovations, the management in the government should communicate clearly with all involved about the following activities and procedures. A common understanding is critical. (Mihyo, Hammond, Makhoka, & Tjihenuna, 2011) contend that the government must identify the following to all involved parties:

I. The institution's mission and vision.
II. The role of new procedures relative to the development objective.
III. The new procedure's goals.
IV. The new strategic procedures.
V. The applicable criteria and recognized significance.
VI. An appropriate focus on the information technology innovativeness procedures.
VII. Decision creators' expectations of new strategies and procedures.
VIII. The level of top managers' proposed support.

IX. The importance of involving all employees in new strategies and of full participation in innovation improvement.

The new procedure's team leaders should also communicate to other parties and team members involved in information technology innovativeness the following (Kim et al., 2012):

X. Yearly goals and objectives, which contain a small number of highlights developed in agreement with the long term strategy of the institution.

XI. The objectives' explanations.

XII. Strong, disciplined action plans with guidance on what is to be measured, what is to be done, and equal accountability for these strategies at team level and at individual level.

XIII. Pushing the team members to realize failures and problems as opportunities for development.

XIV. Pushing the team members to contribute to communication.

XV. Organizing activities between departments and teams.

According to Manna (2012), communication between departments and people is important in managing information technology innovation implementation and adoption. Much problem solving depends on combining and sharing the knowledge of people who come from different departments and functions in the governmental institutions. These people must contribute in cross-functional groups, which is a significant success principle when developing a new public service. Knowledge must constantly flow across functional parts and between people in a new governmental strategy development. If there is no communication especially between different functional areas, different levels and at different phases in the

government's information technology innovativeness process many problems can arise. In terms of communication in the government's information technology innovativeness process, a pertinent area to address is information reaching the appropriate parties directly and quickly, without any bureaucratic difficulties (Sharma, Rajeev Yetton, et al., 2003).

The information technology innovation strategy must be connected to all involved so that they can accept it and agree to the necessary action plans to achieve the objectives (Wiengarten et al., 2013).

2.6.3 Organizational culture moderating effect

Organizational culture is defined by Seren and Baykal (2007) as comprising the assumptions, values, norms and customs of organizational members and their interpersonal relationships affecting their work and operating outcomes. Given the propagation of technology in the current era, it is important to know and understand the organizational cultural dimensions affecting this e-dealing.

Several studies have considered the organizational cultural factor (Goodman & Darr, 1998; Lee, Heeseok Choi, & Byounggu, 2003; Venkatesh & Bala, 2012). These studies have shown that organizational culture is an important influential factor in the adoption and use of technology. Jarvenpaa and Ives (1991), in their exploratory study involving interviews with 25 senior managers of multinational organizations, noted that culture has an impact on the business of multinational organizations. They also stated that organizations sensitive to the organizational culture tend to be more successful.

There is growing agreement that organizational culture affects technology innovation decision making and implementation (Ke et al., 2006). Laforet (2016) found that there is a positive significant relationship between organizational culture and the organization's innovative performance. Similarly, the finding of Puia and Ofori-Dankwa (2013) reveal that there is positive significant association between culture and innovativeness.

Straub (1994) conducted a longitudinal study to answer the question of how societal beliefs and values affect the use and acceptance of information technology innovation. It was suggested that organizations should attempt to work with, rather than against, organizational cultural patterns. Moreover, Almoawi (2011) suggested that organizational culture is an important variable in the development process and it may introduce its own set of problems, the consequences of which may range from project failure to delayed delivery of working systems.

Shore and Venkatachalam (1996), in their empirical study, stated that institutional culture is one of the most important variables that affects the organization's information technology. (Ke et al., 2006) indicate the significant impact of institutional factors on an organization's technology adoption and the moderating effect of organizational culture.

In addition, Douglas and Craig (1997) examined the critical issues responsible for changing the behaviour in new technology implementation. The main findings of their theoretical study provided an important insight into the changing dynamics of behaviour with new technology implementation. Organizational culture was the most important factor found.

Hassan, Rashid Nhemachena, and Charles (2008), in their qualitative study conducted in the Middle East, West Africa, and Australia about new information technology adoption, concluded that resistance to change and fear that information communication technology will upset the social order are highly significant factors that inhibit the adoption of information communication technology. Guerra, Martínez, Munduate, and Medina (2005) conducted a study using organizational culture as a moderator for organizational consequences. The results of the study indicated that organizational culture moderates the effect of task changes in public organizations. These differences are based on organizational cultural differences represented by contingency theory, which is the theory used to support the moderating role of organizational culture in Guerra et al. (2005) study.

Simon (2000) reported the organizational cultural influence on information communication technology due to the different gender roles in information communication technology innovativeness and its perception. They measured differences in computer anxiety, which were found to correlate strongly with culture. Moreover, Harris and Davison (1999) examined computer anxiety and involvement with information communication technology using six groups of computer-using undergraduate and graduate students in China, Hong Kong, Malaysia, New Zealand, Tanzania and Thailand. Cultural differences were found to exist in the information communication technology involvement of some of the groups.

Carayannis and Sagi (2001) conducted an exploratory study to measure how the culture of the development team affects the completion of an information technology project. Results indicated that cultural differences affect the success of the system's development process. Differences in culture in international development teams can

have both positive and negative impacts on the timely completion of information technology projects. Okazaki (2005) examined 150 multinational e-commerce web sites based on information content, cultural values and creative strategies. The results showed a cultural difference effect on technology use. Srite and Karahanna (2006) studied the level of organizational culture and individual behaviour of workers in organizations. They indicated that organizational culture has a primary effect on organizations and that behaviour in a power task is affected by organizational culture.

2.7 Conclusion

This chapter discussed the Terms and mane concept operations of the study, over view of the innovation definitions and what information technology innovativeness and the Underpinning theories. The next chapter elaborate more about methodology used in this study.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

In the previous chapter, a review of the relevant literatures and an exposition of how the research hypotheses are formulated has been presented. There are four major hypotheses the present study intends to examine.

This chapter begins with the demonstration of research framework and then addresses development of the hypotheses, research design, sampling technique, and questionnaire design and data collection procedures in the end of this chapter.

3.2 Conceptual Framework

A research framework has been developed after an extensive literature review as discussed in the previous chapters. The linkages shown in the framework in figure 3.1 are grounded in the literature. Information technology Innovation enables governments to keep step with what is happening in the technology development and to provide governmental routine and people with new and improved services based on the technology.

Management support is an essential step towards higher government information technology Innovativeness. It is an identity driven strategic decision that yields greater rewards for governmental work and the whole public sector as a result (Kandiri, 2014). Management support can prove achieving and sustaining governmental working growth in the whole public sector in Palestine (Jabi, 2015).

According to Carter, Lemuria Bélanger, and France (2005) governments have to reconsidering the important of the management support for the government information technology Innovativeness.

Strategy is an institution-wide effort through which a Local Government authority creates directions and creates strategic initiatives that mobilize limited resources to fulfil the Local Government's mission, to achieve its goals, and to take maximum advantage of trends in the internal and external environment. Through government strategy, Local Governments can take advantage of their opportunities and deal with their challenges (Agranoff, Robert Mcguire, & Michael, 2004).

In the Local Government setting, strategies is a process through which a Local Government considers broad issues of institutional direction, develops explicit goals and priorities, and subjects these to open evaluation and debate. Through ongoing government strategy, a Local Government continually renews its vision and reformulates strategies for realizing that vision (Grant, 2006; Rubino-Hallman, 2002). Such planning is proving adequate means of responding to the forces of change. Because of that, government strategy can help government Innovativeness to face developing challenges.

Information technology readiness is a necessary towards higher government information technology Innovativeness and technology Innovation Adoption and Employment. It is an identity driven important polices that produces high rewards for the whole public sector (Al-Odat, 2013). Information technology readiness might show success in sustaining and achieving governmental working development and improvement in the whole public sector in Palestine (Lubbad & Ashour, 2014).

According to Dehning et al. (2003) governments have to reconsidering the important of the information technology innovation for the government Innovativeness.

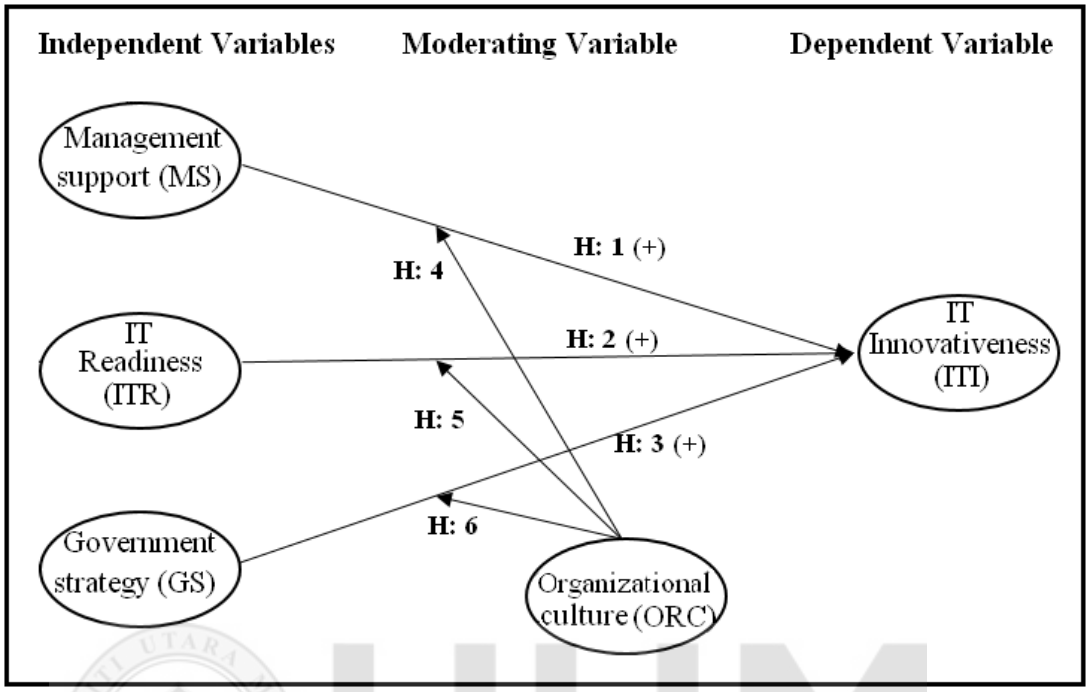

Figure 3.1: Conceptual Framework

3.3 Development of Hypotheses

3.3.1 Management Support, Information technology readiness, Government Strategy and Government's Information Technology Innovativeness

Management Support, Information technology readiness, government strategy do play an important role in helping the government successfully achieve their goals. According to (Carter et al., 2005; Hung, Chang, & Kuo, 2013) management support is seen to lead the government to high acceptance level for the information technology innovation implementation.

On the other hand, government's information technology innovativeness is commonly defined as the attitude towards governmental working procedures and publicity within the government (Hameed et al., 2012).

Among various governmental strategies, management support tend to foster strong feelings of demonstrative accessories to the government, the employees will work smoothly and with strong authority from the policy makers in the government to achieve the information technology innovativeness. Wu, Shelly Straub, Detmar Liang, and Peng (2014) they indicate the importance of the management support and power for the information technology innovativeness. (Schäfer, 2004) stated that information technology innovation implementation tends to be achieved and proceed within the governmental work when there is management support for this implementation and adoption.

Rai, Brown, and Tang (2009) indicate a significant impact between top management support and new technology innovativeness implementation. Zheng et al. (2013) they stated that top management support greatly affects the organizational decisions of new technology adoption, and when the top management feel a larger need of new technology, they are more committed to supporting future adoption. Concisely, management support has the opportunities to increase a high governmental information technology innovativeness, especially when they realize that it will give the government the chance to be one of the developed counters. A hypothesis has been made based on this assumption:

H1: There is a positive relationship between management support and government's information technology Innovativeness.

Furthermore. Information technology readiness provides prospects for governmental institution to be closely administered and their role are clearly defined and activate the financial accountability control (Trusty, 2013). Other studies conducted in the main hospital in Gaza Strip (Hamdoana, 2010) and high education sector Siyam (2013) also supported that, the Information technology readiness is correlated to government's technology Innovativeness. Also, Chen and Chung (2007) appointed that the Information technology readiness also works well in official and supportive culture that encourages the institutions to the innovation adoption. So, based on this research, Moon, Lee, and Roh (2014) suggested that Information technology readiness which has a link to technology innovativeness is one of the best practiced in public service. Hence, there is a hypothesis formulated based on this assumption:

H2: There is a positive relationship between Information technology readiness and government's information technology Innovativeness.

A systematic process of envisioning a desired future, and translating this vision into broadly defined goals or objectives and a sequence of steps to achieve them. In contrast to long-term strategy (which begins with the current status and lays down a path to meet estimated future needs), government strategy begins with the desired-end and works backward to the current status consistent with the descriptions of government strategy (Friend & Jessop, 2013), But, the relationship was not significant as Kalay and Lynn (2015) claimed that strategic planning was negatively related to technology innovativeness. The conclusion made by Kalay and Lynn is

somehow different with other studies of organization strategies, for example Rashidi et al. (2014) who indicated that assistants who are given complete freedom by Strategic planning will result in low change adoption, as well as technology innovativeness change. Hamdan, Defever, and Abdeen (2003) indicate result that government strategy has a negative effect on change adoption and implementation. Another study conducted in the same research area in the public sector (Yang, Lin Adcroft, Andy Bruce, & Kyle, 2015) he mentioned the significant effect of the public institutions strategic choice and the intuitions technology progress.

Studies applying resource based view theory initiate that it was active organizations who achieved better with technology innovativeness because they used it to support their strategies, and because they established technology innovativeness abilities (Caldeira & Ward, 2003; Rivard et al., 2006)

Government strategy may be effective in certain condition, as Shea (2013) mentioned, however, may be the government strategy no more impact on other organizations and commercial sectors in Gaza, but in a Gaza strip public sector situation it is critical some time to provide the public services and the governmental working procedures in some way better as Ferlie, Musselin, and Andresani (2008) researcher described governmental strategies play an important role in the public sector. There is a hypothesis formulated based on this assumption.

H3: There is a positive relationship between government strategy and government's information technology Innovativeness.

3.3.2 Organizational Culture and Government's Information Technology Innovativeness

Organizational culture represents a system of shared assumptions, values, and beliefs, which governs how people and organization behave in governmental institutions (Seren & Baykal, 2007). Culture notices within the institution in the public sector, not for only people and public services providing satisfaction but also improving the governmental efforts in the information technology innovativeness (Hamdoana, 2010; Hussain et al., 2012). Management support, Information technology readiness and government strategy, consider as motivational factors for the government information technology innovativeness (Dunleavy, Margetts, Bastow, & Tinkler, 2006; Hamdan et al., 2003; Hamdoana, 2010; LOAN, 2002; Schäfer, 2004; Wu et al., 2014). More commitment and strongly stuck in the old organizational culture that prevent any change within the governmental institution certainly will lead to less government's information technology Innovativeness (Morcillo, Rodriguez-Anton, & Rubio, 2007). In contrast, if the assumptions, values, norms, and customs of the organization and its members, smoothly accepting the technological change that improving the governmental working process, This would support the motivational factors for the government's information technology innovativeness and the new governmental procedures based on the technology, as organizational culture contingency factor.

Based on the mentioned organization culture argument, the organization culture studied as moderator with such or similar motivational factors for the innovativeness or the technology innovativeness. Ali, Syaiful Green, and Peter (2012) there research in the same area indicate a significant results organizational

culture and information technology implementation.Garnett et al. (2008) they study the moderating effect of organization culture in the public institutions working process, and how is significant the effect of the organizational culture on the public institutions working process in the public sector, and the result indicate acritical impact of the organizational culture in the public institutions working process.Ifinedo (2007), result indicated that less commitment to the organizational culture that prevent any change within the governmental institution effect on the governmental performance to lead better to better to achieve governmental institution objectives .

These results indicate further research in organizational culture area added more as moderator affecting the organizations and institutions working process (Bell & Roebuck, 2015; Zairi & Al-Mashari, 2005).

The governmental institutions has strongly stuck to the traditional organizational culture its depraved effect on outcomes of the government as implementing and adoption of the information technology innovation, that leading poor publicity and governmental working routine.

H4: Organizational Culture moderates the relationship of the Management Support and Government's Information Technology Innovativeness.

H5: Organizational Culture moderates the relationship of the Information technology readiness and Government's Information Technology Innovativeness.

H6: Organizational Culture moderates the relationship of the government strategy and Government's Information Technology Innovativeness.

3.4 Research Design

This section discusses the proposed plan to examine the research framework. In particular, this section sheds light on research nature and approach, research instrument, unit of analysis, sampling procedures, measurements, questionnaires translation and validation, and pilot study. Figure 3.2 depicts the components of this section.

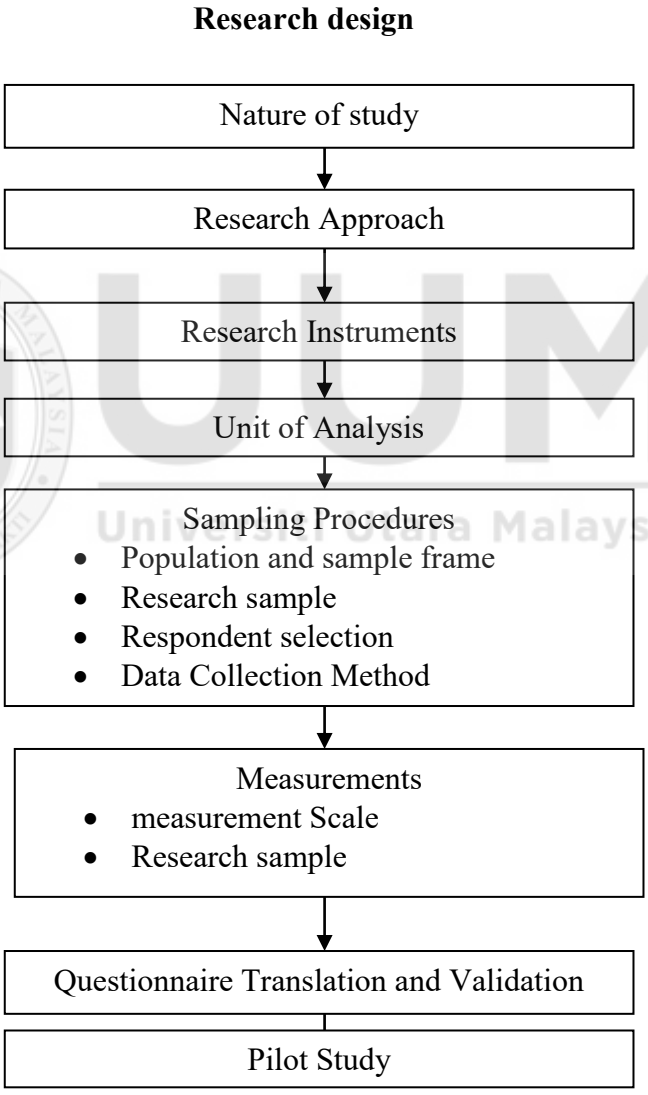

Figure 3.2: The Components of Research Design Section
Source: (Alsaad et al., 2015)

3.4.1 Nature of the Study

Research can be an exploratory, descriptive or hypotheses-testing. An exploratory research is undertaken to explore a new area of research, while descriptive research attempts to describe certain characteristics of a phenomenon. By contrast, hypotheses-testing studies focus on examining the variation ia the dependent variables (Sekaran & Bougie, 2010). The type of study carried out depends on the objective of the research. As study focuses on predicting the factors that significantly account for variance in an government's information technology innovativeness thus, it can be classed as a hypothesis testing study.

3.4.2 Research Approach

Selection of appropriate approach and method assumes critical important when conducting a research (Galliers, 1992). A review of prior studies in prior information technology innovativeness research helps to identify the most appropriate approach to carry out the research.

Mohamad and Ismail (2009) review approaches that used to carry out the information technology innovativeness and adoption research. They find that quantitative approach is the one most currently adopted to carry out research in the adoption of information technology. More recently, Chen et al. (2013) reviewed 618 journal articles to identity the research methods employed in information technology adoption They found that more than 80% of the adoption research was quantitative.

With regards to the type of research methodology, Mohamad and Ismail (2009) found that cross-section survey is the most commonly used in adoption research. The next most popular methods are the case study, and interviews. This View confirmed by Chen et al. (2013).they found that 74.3% of the adoption research was based on the survey method while case study and interviews accounted for 4.7% and 4.4% respectively. Mohamad and Ismail (2009) argue that because survey method enables researchers to generalize their findings, it is more popular among them.

It can be seen from the above analysis that survey approach dominates information technology innovativeness and adoption research methodologies. It provides snapshots of specific practices or behavior in specific time from which inferences may be made (Lin, Chad Huang, Yu Burn, & Janice, 2007). It is realistic and helps in making proper generalizations (Mohamad & Ismail, 2009). Additionally, it enables the researcher to focus on a specific problem, to pursue a rigorous method, and to generate valid conclusions (Sekaran & Uma, 2003). Pinsonneault and Kraemer (1993) emphasize that the internet survey approach is most appropriate when the dependent and independent variables are well defined and a conceivable model of the expected relationships exists. This study has a well-defined dependent variable and there is clear causality between research variables and are supported by theoretical basis. This study also interested in generalizing the research result to Gaza strip local government. Based on this, and the recommendation of Privitera (2014) that online survey is appropriate where the researcher intends to reach a large number of respondents, this study adopts the internet survey approach to investigate and examine research framework. Also, the managers who are the

respondents in this study are literate and have access to internet to fill the questionnaire.

3.4.3 Research Instrument

A structured questionnaire has been selected as the main research instrument for this study. Questionnaire possesses several advantages over other types of instruments. It enables the researcher to accumulate vast quantities of data from respondents, it is generally inexpensive to administer, requires little effort for its development and lends itself to quick and easy analysis (Wilkinson & Birmingham, 2003). Furthermore, it helps to obtain standardized answers from respondents (Sekaran & Bougie, 2010).

Given the respondents of this study comprises of the Gaza strip local government managers who are located at a wide geographic area and their time is very limited, using structured questionnaire is preferred method to collect data, due to its several advantages such as wide area coverage, low cost, and the respondents can answer the questionnaire at their leisure (Dillman, 2011; Sekaran & Bougie, 2010).

3.4.4 Unit of Analysis

According to Neuman (1997) unit of analysis is what is being studied for measurement of variables. Unit of analysis can be individual, group or organization (Mcdougall, Patricia Oviatt, & Benjamin, 2000), depending upon the nature and context of study. For this study, manager and above mentioned in appendix (C) are taken as unit of analysis. The managers in the governmental institutions and Ministries represent their respective Ministries. Therefore, managers of respondent Ministries were contacted in order to gather data regarding government's

information technology innovation and governmental resources (management support, Information technology readiness, government strategy), and organizational cultures impact.

3.4.5 Sampling Procedures

Sampling is the process of selecting a sufficient number of elements from the population (Sekaran & Bougie, 2010). In this section, population, sampling frame, the sampling procedure and sample size are discussed.

3.4.5.1 Population and Sample Frame

Population refers to the totality of the group of people, phenomenon, or event of interest which the researcher wants to investigate (Sekaran & Bougie, 2010). In this study, therefore, the population refers to all managers at the Palestinian ministries in the Gaza strip with grades General Director (A3), General Director (A4), Deputy Director (A), Unit managers (B) and Unit manager (C). Based on the information obtained from the Office of the General Personnel Council (2016), the total number of the managers in the ministries in the Gaza strip, which represents the population of this study is 922.

3.4.5.2 Sample of study

The total population for this study is 922 whereas; referring to the Krejcie and Morgan (1970) the total number of respondents for a population of 950 should be 274 and 266 for population of 922. Hence, a total number of 266 respondents are

minimally required for this study. There is a lack of research conducted in the area of local government in Gaza strip as a whole.

Since the population is restricted to ministries in the Gaza strip local governments in Palestine and there is no single source to previously determine which governmental institution are currently information technology innovativeness adopters or not, and the because we use internet questionnaire and there is no way to know which manager keeping update with his working email.

3.4.5.2.1 Sampling Technique

This study applied the simple random sampling technique. Therefore, the elements in the whole population have a known chance or probability of being selected as the sample subjects. This type of sampling is chosen because the representativeness of the sample is important for the purpose of generalization. This technique often improves the representativeness of the sample by reducing sampling error.

This study randomly selected 500 manager by using the Table of Random Numbers. Each manager is required to answer internet-based survey.

We have five managerial classifications from 21 ministry in the local government in Gaza strip, Tables of Random Numbers can be used in the simple random sampling process. A much more satisfactory approach if the population has around 1,000 or more members is to use a Table of Random Numbers, also called a table of random digits (Hair Jr et al., 2015). Random number tables have been used in statistics for tasks such as selected random samples. This was much more effective than

manually selecting the random samples. Nowadays, computational random number generators have replaced Tables of Random Numbers.

When the researcher decided to select 500 managers in order to get the responses regarding the local government information technology innovativeness from the perspective of the managers, this meant that 54 percent (500 out of 922) of the total population had been selected as the sample subjects in this study. In other words, by using the Table of Random Numbers, the researcher had randomly selected 500 manager to participate in this study. As mentioned in the above section, all management representatives were asked to give responses in the perspective of management towards the performance of the government regarding the use of information technology and information technology innovativeness and factors affecting that.

All data regarding the names and the total numbers of managers in the local government in Gaza strip, which consists of 21 ministries, the total numbers and complete job Functional Description of all managers in local government in Gaza strip were given by the Information Management Department in the ministry of Ministry of the Government Affaires. As stated by (Hair Jr et al., 2015), the response rate for mail survey which is more than 40% is considered as good.

In conclusion, there were 500 online questionnaire sets had been emailed to all managers' representatives in this study.

3.4.5.3 Data Collection Method

There are several data collection methods such as mail and email survey, internet survey, phone survey, and self-Administrated survey (Dillman, Smyth, & Christian, 2014; Sekaran & Bougie, 2010). However, internet survey is very appropriate when the researcher intends to administer questionnaire to a large number of respondents (Privitera, 2014). This study makes use of internet survey because it is suitable for the caliber of the respondents under study who are managers and who know how to make use of computers and have access to internet. Internet survey method is more popular in Gaza strip context and it achieves high response rate in such context, because of the political conflates there and the borders of Gaza strip is always closed, which make the moving in or out of Gaza very hard. Since the research population located in Gaza strip, the researcher employed for data collection internet technique by using the Online Forms by Google. This technique is also culturally accepted among the governmental institutions in Gaza strip.

3.4.5.4 Measurements Scale

A review of the selected constructs reveals that the optimum scale that can be used with them is interval scales enable respondents to indicate their level of agreement or disagreement about particular statement. These scales have been used extensively to measure management and business concepts such as attitudes, feelings, perceptions, values and opinions (Hair, 2010). Accordingly, this study adopts an interval scale. This is in line with (Rai et al., 2009). In fact, there has been much debate with regard to the optimal number of scale points. Dillman et al. (2014) and Fink (2012) suggest that five or seven point of scale should be used. Foddy (1994),

however, conclude that a minimum of seven-point scale is required to ensure scale reliability and validity. A Seven point scale is better than others, as it offers much wider range of options and increases the variance in the underlining measures (Dillman et al., 2014; Foddy, 1994). Therefore, research constructs in this study were measured using multiple item; on seven-point Likert scales, labelled with "Strongly Disagree" to "Strongly Agree".

3.4.5.5 Questionnaire Design

Since researchers use questionnaires as the tool for collection of data, it is imperative that high quality questionnaires be designed in order to improve their ability to collect dependable data. Dillman (2007) suggests four guidelines for structuring and designing good questionnaire, which include:

1. Start with more important and useful questions.
2. Group similar questions together in the same area.
3. Create a kind of rapport among the groups of questions.
4. Place the questions that are most likely to be unpleasant to respondents after the less unpleasant one.

Following these guidelines, the questionnaires used in this study is divided into three main sections.

- The first section is designed to collect demographic information relating to the respondents such as their: age, gender, Qualification, Job Title, Years of Experience, and working Ministry.

- The second section collects data about the government's information technology innovativeness.
- The last section collects data about factors affecting government's information technology innovativeness. In this section, the questions have been built to proceed logically with one question linking to the next questions were three categorized divided to the independent variables and the moderator variable.

Appendix (A) represents the complete questionnaire.

3.4.6 Questionnaire Validation and Translation

Arabic language is a main language in Palestine. Using Arabic as a language of research questionnaire gives the researcher the advantage of communication with governmental institutions in Gaza strip. This also enables the researcher to get more insightful information by using the native language of the target population in the data collection process. There is, however, little literature available in Arabic language that investigate similar research framework. Hence, extensive validation and translation procedures have been conducted before the data collection.

The researcher first established English written questionnaire, where English is the language of the original instrument. To pre-test the original instrument, expert review is an inexpensive and relatively quick method for evaluating questionnaires (Presser & Blair, 1994). The reviewers' number could be small, ranging from three to over 20 experts (Presser & Blair, 1994; Rothgeb, Willis, & Forsyth, 2007; Willis, Schechter, & Whitaker, 1999; Wilson, 2010). In view of this, the researcher engaged in validation process in line with seven academic experts in the information system area to ensure the accuracy and reliability of the internet survey

instrument Items were evaluated for construction errors, ambiguity, flow, and sequencing. The questionnaire was then revised where appropriate. Secondly, due to cultural and language differences the researcher engaged in translation process to ensure that the translation of the online questionnaire from English to Arabic is accurate and free from bias.

In the translation process, the researcher followed the translation procedures of forward- backward-translation's suggested by Brislin (1986) which is considered as the most popular approach for questioner translation (Forsyth, Kudela, Levin, Lawrence, & Willis, 2007). The result of this process produced translated version of the questionnaire that equally performed in the same way as the original one. The main focus in this process is on conceptual and cross-cultural equivalence rather than on literal / linguistic equivalence (Brislin, 1986; Forsyth et al., 2007). The overall idea of this approach is that, bilingual translators who are both familiar with terminologies of the underlining area and whose mother tongue is the language of the target population translated the questionnaire into the language of the target population Priority was given to emphasis on conceptual, rather than literal translations. Moreover, there was a need to use acceptable and natural Language for the broadest audience (Brislin, 1986; Forsyth et al., 2007). Bilingual translators aim to identify and resolve the poor concepts/expressions of the translation They also determine any discrepancies between the forward translation and the original version of the questionnaire (Brislin, 1986; Forsyth et al., 2007). The result of this process produced a complete translated version of the questionnaire. Then, following the same approach as that defined in the first step, the questionnaire will be translated back to English by other translators who have no previous knowledge about the questionnaire. As in the forward translation, the back-translation should

focus on cultural and conceptual equivalence and not literal equivalence. Discrepancies will be discussed and adjusted accordingly until a satisfactory version is reached (Brislin, 1986; Forsyth et al., 2007).

Following these procedures, the English version of questionnaire was translated into Arabic language by the researcher and two bilingual academic experts specialized in information technology innovativeness in Palestine, online communication discussions were also used to identity and to clarify conflicts of interpretation. The researcher considered the results from those experts and the revised Arabic version of the questionnaire was created.

Afterwards, the back-translation process, the revised Arabic version of questionnaire was given to another two bilingual academic experts in information technology innovativeness, who were different from the first group. Then, the results from the back translation, Arabic to English, were then compared with the original English version to validate the accuracy of the content.

To further refine the survey instrument, the researcher conducted preliminary interviews with two managers and sent the questionnaire for two academic professors. The purpose of this was to analyze the translated questionnaire from the perspectives of understandability and practical relevance of the topic under investigation some questionnaire items were modified and explained further, which improved the questionnaire.

3.4.7 Pilot Study

It is essential to test the research instrument on the target population before the actual data collection. The pilot test is considered a pre-testing of the research instrument (Zikmund, Babin, Carr, & Griffin, 2012). Therefore, performing pilot study for the translated instrument before the actual data collection has many significant advantages to the success of study, and this will provide the opportunity to remove ambiguity and increase clarity of some questionnaire items (Sekaran & Bougie, 2010; Zikmund et al., 2012). In doing so, the researcher was able to polish and refine the questionnaire in order to obtain the data successfully and confirm that respondents have no problem with answering the questions.

The major objective of the pilot test is to assess the goodness of the measurement in terms of validity and reliability. Therefore, in this study, the pilot test was conducted to achieve the following objectives:

1. To ensure all questionnaire questions are clearly understood by the respondent,
2. To ensure all questions can be completed within a time span and, the respondents do not get bored or have less motivation n with the questionnaire, and
3. To improve the questionnaire so that respondent will have no difficulties in completing the questionnaire.

Consequent upon the above, and in order to improve the quality of the questionnaire, the researcher sent the questionnaires to the academics who are senior lecturers in universities and the professional in the field of information

technology. The essence of this is for them to do the content validity for the questionnaire before it was administered for the pilot test.

According to Hill (1998), sample between 10 to 30 questionnaires is an appropriate size for pilot study. Accordingly, the researcher distributed by email 100 questionnaires to the prospective respondents who ~~are~~ were selected randomly managers the sample frame, Out of them, 32 were received of which no one were not valid.

It is important, however, to assess the consistency of an instrument or its reliability. In order to test the reliability of research instrument, various tests are usually available. Internal consistency reliability test is considered a common method used by researchers (Hair, 2010; Sekaran & Bougie, 2010). It examines three important things including the extent to which construct items hang together as a set. This also includes the extent to which construct items are independently measuring the same construct and the extent to which the construct items are inter-correlated with one another.

Sekaran and Bougie (2010), however, suggest that Cronbach's Alpha coefficient is the most popular test of inter-item consistency reliability. Thus, Cronbach alpha analysis was conducted to examine internal consistency of the instrument. By using SPSS, all of the dependent and independent variables were tested. The closer the Cronbach's alpha coefficient gets near to 1.0 are better. If the Cronbach's Alpha is less than 0.6, it is considered as poor and thus, the items are less reliable. Those in the range of 0.7 arc acceptable and those over 0.8 is good (Sekaran & Bougie, 2010). Hair (2007) observe that researchers generally consider that an alpha value of 0.70 as a minimum, however, lower coefficients

may be acceptable. In this regard, therefore, Hair et al. (2017) and Garson (2016) state that a cutoff point of 0.6 is satisfactory for an exploratory research.

By application of Cronbach's alpha formula, the instrument yielded satisfactory internal consistency for three out of ten of the underlining constructs including Management Support, Organizational Culture and Information Technology Innovativeness. Table 3.1 shows the summary of the reliability results. It could be seen from the table that the Cronbach's alpha values for three constructs are above 0.70. Accordingly, given the Cronbach's alpha values of those constructs, they are consistent with established benchmark of 0.70 meaning that all of them are reliable and thus, there was no need for further action.

Table 3.1: Constructs' Cronbach's Alpha Values

NO	Constructs		Items	Cronbach's Alpha
1	(DV) Government's IT Innovativeness		5	0.732
		Management Support	4	0.882
2	(IVs) government resources and capabilities (organizational context)	Information Technology readiness	5	0.692
		Government Strategy	5	0.688
3	(M) organizational culture		13	0.851
	Total:		**32**	

Two constructs including Information technology readiness and government strategy were less than the established benchmark of 0.70. The Cronbach's alpha values of those constructs are 0.692 and 0.688 accordingly. In line with the recommendation of Hair et al. (2017) and Garson (2016), the results are still satisfactory. These results, therefore, suggest that the instrument is valid and reliable for further administration to the intended respondents.

3.5 Data Collection

In this study, a questionnaire was adopted for collecting quantitative data. The definition and description of the government's information technology innovativeness were included in the internet survey instrument to improve the validity of the responses.

The researcher sent through Ministry of Information Technology an internet survey to the respective respondents by the Online Forms sent to the managers by email. This method is more popular in Gaza strip context and usually facilitates higher response rate high response rate (Schleyer & Forrest, 2000). Moreover, it is very effective since the research population is only limited to managers, who it easier for them to deal with the Internet and fill in the questionnaire using the online forms. The researcher sent official latter to the research and development department in the Gaza strip local government. This letter asked the Research and Development Department for their cooperation in send the online questionnaire the target group of managers by cooperating with the ministry of information technology because it's the authorized body to deal with such issues and the Ministry of Information Technology have the full classified data of all government employees, such as email

and phone number and the official latter also provided information that explains the objectives of the study, definition of key concepts and a copy of the questionnaire and the online form link. The emails sent to the target group of managers by Ministry of Information Technology included a copy of the questionnaire online form and an invitation letter with the university's official letterhead. This letter asked the participants for their cooperation and provided information that explains the objectives of the study, definition of key concepts, and an estimated time (between 10 -15 minutes) for completing the questionnaire. The letter also assured anonymity and confidentiality of their responses. It was concluded by thanking the respondents for their effort and time to take part in the survey, overall, the responses were requested within one week from all respondents.

Three weeks after sending the email to the managers the response rate was low, which not exceed 20% the random unite Ministry of Information Technology sent another reminder email urges managers who have not been fill in the online questionnaire to fill it, text messages were sent to managers' phones in conjunction with the second email urging them to fill in the questionnaire.

Dillman et al. (2014) suggests that response rates will usually be lower than those nominally attained without follow-up of respective respondents. Therefore, after a period of one to two weeks, managers that did not respond were reminded through either telephone calls or SMS message (Dillman et al., 2014; Sekaran & Bougie, 2010).

Out of 922 managers distributed to 21 ministry in the local government located in Gaza strip. The researcher send the online questionnaires for each manager by email. Accordingly, 500 questionnaires have been delivered to the prospective

respondents. After two months, the researcher collected 375 responses from the target sample, which is five managerial classifications in the local government in Gaza strip Deputy Director (A), General Director (A3), Unit manager (C), Unit managers (B), General Director (A4). The researcher was receiving the completed questionnaires the moment they were completed online by the respondents. After two months, the questionnaires received were collated and all amounted to 375. Consequent upon the initial screening of the returned questionnaires, The researcher excluded 14 responses from respondents who reported that they are not within these managerial classifications, which, in tum, left 361 responses that are valid for the analysis. Out of 361 valid responses, Table 3.2 summarizes the data collection details.

Table 3.2: Summary of Data Collection and Response Rate

Description	Details
Research population	five managerial classifications in the local government in Gaza strip (Deputy Director (A), General Director (A3), Unit manager (C), Unit managers (B), General Director (A4)), 922 managers
Actual number of distributed questionnaires	500
	375 total responses
Responses collected	14 not within the target managerial classifications
	361 within the target managerial classifications
Eligible responses	361 responses
Response rate	**72%**

To calculate the response rate, the researcher used the number of eligible responses divided by the number of eligible samples (Zikmund et al., 2012). The number of eligible responses was 361 whereas; the number of eligible samples was 500. Accordingly, the response rate was approximately 72%. This response rate is comparable to those reported in similar studies (Table 3.4). In spite of several attempts have been considered by the researcher to increase the response rate, the response rate is relatively lower as compared to those studies conducted in Gaza strip context (Table 3.3). This low response rate with respect to Gaza strip context may be attributed to nature of the online survey questionnaire. That is, certain managers are less likely to have internet access and to respond to online questionnaires. It is also harder to draw probability samples based on e-mail addresses or website visitations. In addition, the nature of the respondent. That is, the manager's functions are very dynamic, whereby limited time is available for them to answer the questionnaires. Next section describes the characteristics of respondents and the data collected.

Table 3.3: Response Rate for Selected Studies in Gaza strip Context

Authors	Study context	Sector	Response rate
skaik and Al-Habil (2013)	MIS	SMEs	89%
saidi and rross (2015)	advanced technology	NGO's	83%
wafi and samour (2013)	Technology Intelligence	SMEs	98%
mansour and ashour (2013)	Technology adoption	Education and NGO's	86%
khrais and daya (2015)	Technology implementations	NGO's	54%

Table 3.4: Response Rate in Selected Studies in information technology innovation Literature

Study	Subject of study	Country	Response rate
Cao et al. (2013)	Intent to adopt technology innovation (E-supply chain)	North America	20.7%
Chan, Chnog, et al. (2012)	Decision to adopt	Malaysia	10.6%
Chong et al. (2009)	Intent to adopt technology innovation (e-commerce)	Malaysia	27.25%
Rajaguru and Matanda (2013)	lOIS Integration	Australia	15.1%
B. Ramdani, Dwivedi, Papazafeiropoulo, Kawalek, and Lorenzo (2009)	Adoption of a set of enterprise systems	Northwest of England	40%
Ifinedo (2011)	E-business adoption	Canada	11.8%

3.6 Questionnaire Design

The questionnaire has been adapted to measure the variables used in the study. The sequence of constructs in the questionnaire is as follows. Firstly, the questions relate to personal characteristics. Subsequent section relates to questions measuring dependent variable. Third section measures the Independent Variables (management support, Information technology readiness, government strategy). Lastly, there are questions measuring the organizational culture impact. The details about measurement of each construct are discussed as follows.

3.6.1 Government Information Technology innovativeness

Government Information technology innovativeness refers to the notion of openness to new ideas as an aspect of organization's culture in the field of information

technology within the government (Venkatesh & Bala, 2012). The newness can be embedded in multiple areas of government's operations. It can be integrated in publicity and governmental working procedures development. Finn's publicity processes can be modernized or new technologies can be introduced. Information technology Innovations can also be brought in managerial and publicity processes. Thus, the scope of information technology innovation is quite broad.

There is no denial to the significance of information technology innovation in the public sector. Innovation enables government to be more achieve higher performance (Lee, Gwanhoo Kwak, & Hoon, 2012). In the recent past, researchers have shown tremendous interest in studying information technology innovation in the public sector. Studies performed by (Lee et al., 2012; Venkatesh & Bala, 2012) can be quoted as few examples in this regard. In their studies, the researchers have focused on different determinants of information technology innovativeness. However, majority of the studies have highlighted on process innovation in the public sector. (Lee et al., 2012; Sørensen & Torfing, 2011) are some examples in this regard.

As discussed earlier, the scope of government information technology innovativeness is much broader than just the process dimensions. The mentioned researchers showed interest mainly in the general aspects of innovation.

(Damanpour & Aravind, 2012) suggested that along with different studded dimensions, the researchers should also focus on technological dimensions of innovation in the public sector.

Some studies argued that it is also quite important to understand the degree of information technology innovativeness (Johnston et al., 2014; Lin, Angela Chen, & Chou, 2012; Venkatesh & Bala, 2012). They suggested that the intensity of information technology innovation should be analyzed that whether the innovation refers to gradual changes, minor improvements, or major changes such as replacement of older technologies and other processes at once.

In addition to technological dimensions and degree of innovation measures, a few studies have also discussed an interesting dimension of information technology innovativeness namely referent organization technology innovation. Referent refers to how new technology innovation is seen or perceived by a government's policy makers and employees (Yildiz & Mete, 2007), It is quite fundamental that the public sector must perceive the government's technology innovation as new in order to realize the benefits of that innovation otherwise the innovative effort would be quite futile.

Venkatesh and Bala (2012) developed organizational innovativeness scale to measure organizational innovativeness. In the scale, he identified the degree of innovativeness within the organization.

The questions from Venkatesh and Bala (2012) are adapted and modified for this study in order to incorporate and fit with the government technology innovativeness in the local government in Gaza strip. The items measuring technology innovation are given in the table 3.5. Government Information technology innovativeness, given on either end of a 7-point numeric scale.

Table 3.5: Items on Information Technology Innovativeness

NO	Items
1.	The Management in the government actively seeks information technology innovative ideas.
2.	Information technology Innovation is readily accepted in this governmental instigation.
3.	Information technology Innovation in this governmental instigation is perceived as too risky and is resisted.
4.	Employees are penalized for new information technology ideas that do not work.
5.	The government readily accepts information technology innovations based on research results.

3.6.2 Management Support

Management technology support refers to the degree of managerial openness of technological change (Cho & Kim, 2002).

Management translates the policy into goals, objectives, and strategies, and projects a shared-vision of the future. It makes decisions that affect everyone in the organization, and is held entirely responsible for the success or failure of the public institution (Gonzalez, 2015). The notion of Management support in public sector is still quite new as compared to its established position in privet sector. The literature on management support for such innovation adoption in the public sector is quite scarce. There are very limited quantitative studies that have attempted to explore the relationship between management support and government's information technology innovativeness.

Hamdoana (2010) studied the management support in the public health sector in Gaza strip. He developed a questionnaire to measure dimensions namely organizational culture (22 items), management support (17 items), and organizational communication (18 items). In his study, focus was on the hospitals. The questionnaire developed for this study mainly focuses on the aspect of government innovativeness in the health aspects and looks more appropriate for the health sector.

El-Ghorra (2011) developed 13 items discussed the role of the management support and the impact on the innovation adoption in the local government in Gaza. El-Ghorra discussed those dimensions in the context of innovation in general. Therefore, the relationship between management support and technology innovation remains to be explored using a measurement instrument appropriate with government information technology innovativeness in the public sector.

Therefore, for this study the questions have been adapted from the items proposed by Cho and Kim (2002) there research results show how much the management support is important for the organization technology innovativeness.

To measure this concept, each question item consists of a statement to be measured on a 7-point Likert type scale. The questions measuring the management support concept are given below as can be seen in table 3.6.

Table 3.6: Items on Management Support

NO	Items
1	The Management is interested in new technology and tries to adapt to it.
2	The Management is actively considering the introduction of new technology to solve the governmental institution problem.
3	The Management tries to keep a technological leading edge by adapting new technology.
4	The Management tends to take risks in decision-making of new technology introduction.

3.6.3 Information Technology Readiness

Mithas et al. (2008) they defined Information technology innovation readiness, as the continuous technological improvements in existing work, development of new work, and investment in keeping abreast with technological developments. Information technology readiness is defined in the same manner in this study to describe the government readiness for the Innovation of public sector by using measures like the amounts of money spent in Investing and developing the information technology innovation. With respect to financial aspects.

Measurement of Information technology readiness in the context of public sector is of prime significance not only for the people and the governmental institutions but also for the developing economies that depend largely on the governmental working procedures of public sector. Therefore, a thorough conceptualization of government's information technology innovativeness and its measurement are Issues of substantial importance (Furman, Porter, & Stern, 2002).

The researchers have debated over the issue of selection of measures of Information technology readiness. Contrasting opinions exist among researchers regarding the issue of selection of objective versus subjective measures of Information technology readiness. In case of public sector and governmental work, it is mighty difficult to obtain data pertaining to Information technology readiness and even Information technology readiness (Ferro & Dadayan, 2006). In addition, there is no certain data and information about the government in Gaza strip financial situation and the investment opportunities (Gillespie, Sayre, & Riddle, 2001). This is one of the reasons why secondary data sources lack detailed objective information about the public sector. In addition, questions regarding sensitive information also lead to reduction in response rates as the respondents become apprehensive (Dillman, 2011).

Information Technology (IT) and Information System (IS) are used interchangeably in the literature by the scholars. Ang and Straub (1998) developed items to measure the information system innovation for operations and data processing in the U.S. banking industry. Mithas et al. (2008) proposed items of Information technology readiness measures for the buyer intention to use internet-enabled. The proposed items include financial dimensions of Information technology readiness.

The use of scale developed by Ang and Straub (1998) and Mithas et al. (2008) is quite evident in studies measuring Information technology readiness in the public sector. Hence, this study adapts the widely recognized and frequently employed items proposed by Ang, Straub and Mithas.

All of the measures selected to measure Information technology readiness in the public sector for the local government in Gaza strip Information technology readiness in the information technology questions most appropriate for this study

have been adapted, also giving due consideration to purpose and scope of the study as well as the context of public sector.

All items are measured on a 7-point scale ranging from "not at all satisfactory" to "outstanding" in order to ensure consistency with other questions in the instrument. The questions of the local government Information technology readiness are given in table 3.7 as can be seen as follows.

Table 3.7: Items on governmental Information technology readiness

NO	Items
1	The government has more money that could be invested in information technology.
2	We are facing tighter information technology budget limitations than we did before.
3	Government that develops new technology critical to the governmental working process and providing the public services.
4	The governmental working process requires continuous technological innovation.
5	Government keeps abreast with technological developments.

3.6.4 Government Strategy

Fairbank et al. (2006) define the Organization's strategy as a set of strategic patterns. Strategy for the technology innovativeness refers to the complexity of the information technology in the organization strategy, such as considering the effects of information technology on an organization's work (Wang et al., 2012).

The concept of government strategy has frequently been studied in the context of public sector. Picazo-Vela, Gutierrez-Martinez, and Luna-Reyes (2012) , Walker

and Brammer (2012), Speer (2012) and Wang et al. (2012) can be quoted as a few examples. Past studies have examined a variety of dimensions of government strategy with technology implementations.

Based majorly on the work of Picazo-Vela et al. (2012) , Walker and Brammer (2012), Speer (2012) and Wang et al. (2012) developed or adapt a government strategy Capability Scale.

Wang et al. (2012) adapted his instrument to measure the strategy for the employment and adoption of the technology innovation from two past studies T. Ravichandran and Lertwongsatien (2005) and Bharadwaj, Sambamurthy, and Zmud (1999). Therefore, this study has adapted and modified items from the instrument developed by Wang.

Each question consists of a statement to be measured on a 7-point Likert type scale where 1 represents total disagreement and 7 represents total agreement with the given statement. Items measuring government strategy are given in the table 3.8 as follows.

Table 3.8: Items on Government Strategy

NO	Items
1	Information technology effects have been considered in the governmental institutions strategies.
2	The governmental institutions able to consciously analyze the potential of Information technology in enhancing the government effectiveness.
3	The effects of Information technology on realizing the governmental working process strategy are well understood.

4	The alignment between business strategy and Information technology strategy has not been achieved.
5	The government have set different priorities for Information technology projects in the governmental institutions technology strategy.

3.6.5 Organizational culture Measurement as moderating variable

Organizational cultures defined by Seren and Baykal (2007) as comprised of the assumptions, values, norms, and customs of organizational members, and their interpersonal relationships affect their work and operating outcomes.

A list of 13 items to measure the variable related organizational culture. An original instrument for organizational culture items drawn from Gold et al. (2001). His research focus on technology innovation from the perspective of Organizational Capabilities, which is supported by RBV theory and the organizational factors, is the scope of this research.

All items are measured on a 7-point scale ranging from "not at all satisfactory" to "outstanding" in order to ensure consistency with other questions in the instrument. The questions of the organizational culture are given in table 3.9 as can be seen as follows.

Table 3.9: Items on Organizational Culture

NO	Items
1	The government understand the importance of information technology innovativeness to the governmental institutions success.
2	In the governmental institutions, high levels of participation are expected in transferring information technology knowledge.

3	The governmental institutions are encouraged to explore and experiment their information technology expertise.
4	In the governmental institutions, on-the-job technology learning are valued.
5	The governmental institutions are valued for their individual and institutional information technology expertise.
6	In the governmental institutions, employees are encouraged to ask others for assistance when needed.
7	In my governmental institution the employees are encouraged to interact with other groups have more experiences in the field of information technology.
8	In the governmental institutions, employees are encouraged to discuss their technology knowledge with people in other workgroups.
9	In the governmental institutions, overall organizational vision is clearly stated.
10	In the governmental institutions, overall organizational objectives are clearly stated.
11	In my institution shares its technology knowledge with other institutions (e.g. governmental, nongovernmental).
12	The benefits of information technology innovativeness outweigh the costs.
13	The government senior management clearly supports the information technology innovativeness in our institution's success.

3.6.6 Measurement

This study has five variables, namely: management support, Information technology readiness and government strategy. Meanwhile, organizational culture relates to relationships. The fifth variable is the dependent variable, which is the government's information technology innovativeness. Measures used for the constructs and their sources are shown in Table 3.10.

There is some instrument used by the Scholars and developers for the organizational level and in our study the survey for individual (managers). But these managers representing governmental organizations and institutions. In addition to that many researchers have adapted and adopted instrument developed of organizational level for individual response (Alsaad et al., 2015; Dubaik, 2015).

Table 3.10: Variables, Hypothesis, Items and related each Section.

NO	Variables		Source	Items
1	(DV) Government's IT Innovativeness		Venkatesh and Bala (2012)	5
2	(IV) government resources and capabilities (organizational context)	Management Support	Cho and Kim (2002)	4
		Information technology readiness	Ang and Straub (1998) and Mithas et al. (2008)	5
		government strategy	Wang et al. (2012)	5
3	(M) organizational culture		Gold et al. (2001)	13
			Total:	**32**

3.7 Data Analysis

This section provides information that helped the researcher to select a proper data analysis. The SEM technique and the corresponding SEM approaches are discussed in this section.

3.7.1 Selection of Analysis Technique

There are two generations of analytical techniques employed to forecast and predict the dependent variable. Earlier generation regression models such as LOGIT, MANOVA ANOVA, and linear regression, enable researchers to perform analyses for only one layer of linkages between research variables at a time. By contrast, second generation of data analysis technique, such as Structural Equation Modelling (SEM), enable high quality statistical analysis. It allows researchers to answer interrelated research questions in a single and comprehensive analysis by modelling the relationships among research constructs simultaneously (Bagozzi & Yi, 2012; Gefen, Straub, & Boudreau, 2000; Kline, 2010).

Unlike initial generation regression modelling, The SEM assesses both the assumed connection between a set of constructs in the research and the observed items loadings (measurements) on their predictable latent variables (constructs), in each analysis. In other explanation, SEM tests both, hypotheses and factor analysis, in a particular analysis (Bagozzi & Yi, 2012; Gefen et al., 2000; Kline, 2010). By doing so, a projected research model will be verified and tested more meticulously by using better methodological testing and assessment tools. SEM also brings information about the degree to which the model of the research is supported by the data that had been collected (Bagozzi & Yi, 2012; Gefen, Straub, & Rigdon, 2011).

In order to obtain reliable: findings, this study will choice and resort to SEM methods and techniques of analysis for forecasting the dependent variable.

In many respects, however, the model evaluation in SEM is heavily influenced by different approaches of SEM specifically in terms of the evaluation of measurement model In general, there are two approaches to estimate the parameters of SEM, namely, the Covariance-Based SEM (CB-SEM) approach and the Variance-based SEM (VB- SEM, also called PLS-SEM) approach Those approaches are very different in their model development procedure, estimation objectives, underlining philosophy, distributional assumptions, theoretical background, estimation and interpretation (Hair, 2010). Thus, both approaches have different features that make them appropriate for different research purposes. Next section provides more details on this issue.

3.7.2 Selection of SEM Approach

SEM has taken up a prominent role within the academic literature of many fields, specifically in MIS research, to test whether or not theoretical assumptions are supported with empirical data. Although, choosing the correct approach has triggered significant debate across a variety of disciplines in recent decades (Diamantopoulos, Riefler, & Roth, 2008; Goodhue, Dale Lewis, William Thompson, & Ron, 2012; Sarstedt, Ringle, & Hair, 2014), however, several considerations are important when deciding which approach should be applied. The choice of whether CB-SEM or PLS-SEM depends on research settings and objectives. Hair, Ringle, and Sarstedt (2011), recommended rules of thumb in selecting the correct approach for analysis. Table 3.11 shows rules of thumb that should be applied at the time of deciding whether to use PLS-SEM or CB-SEM in

accordance with Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, and Volker (2014). In view of this, five types of decision considerations are listed in the table comprising research goals, measurement model specification, structural model complexity, and data characteristics. The next part discusses those considerations in details.

3.7.2.1 Research Goals

The choice of SEM approach is determined by the research objective. CB-SEM is more appropriate statistical methodology when the underlining research model is grounded on strong theory and further confirmation and testing are the goals (Davcik & Nebojsa, 2014; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler, Ringle, & Sinkovics, 2009). In contrast, in a situation where theory is not well developed, the path relationships between the latent constructs are the primary concern in model testing, and researchers are generally less concerned with predictive accuracy of the model, PLS-SEM approach is the methodological choice (Davcik & Nebojsa, 2014; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009). PLS-SEM is more oriented towards predicting path relationships between the latent construct rather than the predictive accuracy of the model it is the most preferred approach when the research objective is theory development and prediction (Davcik & Nebojsa, 2014; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009). Nevertheless, Hair et al. (2011) confirm that PLS-SEM's capabilities also support its usage for theory testing (conformation).

Table 3.11: Rules of Thumb to Select SEM Approach

Decision Considerations	Decision
Research Goals	• If the research is exploratory or an extension of an existing structural theory. Select PLS-SEM. • IF the goal is theory testing theory confirmation. Or comparison of alternative theories. Select CB-SEM. • If the research is exploratory or an extension of an existing structural theory. Select PLS-SEM.
Measurement model specification	• If formative constructs are part of the structural model, select PLS-SEM. • If the structural model is complex (many constructs and many indicators). Select PLS-SEM.
Structural Model	• If the model is nonrecursive, select CB-SEM. • Data • IF your data meet the CB-SEM assumptions exactly. For example. With respect to the minimum sample size and the distributional assumptions. Select CB-SEM: otherwise, PLS-SEM is a good approximation of CB-SEM results. • Simple size considerations: II' tile sample size is relatively, select PLS-SEM. With large data sets. CB-SEM and PLS-SEM results are similar, provided that a large number or indicator variables arc used to measure the latent constructs (consistency at large). • PLS-SEM minimum sample size should be equal to the larger of the following: (I) ten times the largest number of formative indicators used to measure one construct or (2) ten times the largest number of structural paths directed at a particular latent construct in the structural model.

Data Characteristics and Algorithm	• If the data arc to some extent not normal, use PLS-SEM; otherwise, under normal data conditions. CB-SEM and PLS-SEM results are highly similar, with CB-SEM providing slightly more precise model estimates. • If CB-SEM requirements cannot be met [e.g., model specification. identification, non¬-convergence, data distributional assumptions), use PLS-SEM as a good approximation of CB-SEM results. • CB-SEM and PLS-SEM results should be similar. If not, check the model specification to ensure that CB-SEM was appropriately applied. If not, PLS-SEM results are a good approximation of CB-SEM results.

Source: Adapted from Hair et al. (2011)

3.7.2.2 Model Complexity

Unlike CB-SEM, PLS-SEM works efficiently for modeling higher-order constructs (second order constructs or higher order) (Becker, Klein, & Wetzels, 2012; Wetzels, Odekerken-Schröder, & van Oppen, 2009). Moreover, it estimates path models that comprise many constructs, several structural path relationships and/or many indicators per construct. Furthermore, PLS- SEM enables for a flexible treatment of more advance model elements, such as moderator variables (Becker et al., 2012; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Hair Jr, Joe Sarstedt, Marko Hopkins, Lucas Kuppelwieser, & Volker, 2014; Henseler & Fassott, 2010; Wilson, 2010). Additionally, PLS-SEM has less restrictive assumptions about the normal distribution of data and number of required observation as those in CB-SEM. Thus, PLS enables researchers to estimate very complex models without imposing distributional assumptions on the data using only few observations (Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Hair Jr, Joe Sarstedt, Marko Hopkins, Lucas Kuppelwieser, et al., 2014; Henseler et al., 2009).

3.7.2.3 Data Characteristics

CB-SEM rests on the assumptions of a multivariate distribution and independence of observations. In contrast, PLS-SEM approach avoids many of the restrictive assumptions imposed by CB-SEM. PLS-SEM approach allows for soft distributional assumption and evaluation of PLS models using nonparametric methods (Chin, 2010; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Hair Jr, Joe Sarstedt, Marko Hopkins, Lucas Kuppelwieser, et al., 2014;

Henseler et al., 2009). Additionally, PLS-SEM approach avoids small sample size problems and can be used in some situations when the equivalent approach "CB-SEM" cannot (Chin, 2010; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Hair Jr, Joe Sarstedt, Marko Hopkins, Lucas Kuppelwieser, et al., 2014; Henseler et al., 2009). Some authors provide empirical evidence that CB-SEM approach requires several hundred or even thousands of observations when the structure model is very complex (Boomsma & Hoogland, 2001). On the contrary, in PLS-SEM approach, there can be more indicators than observations (Tenenhaus, Vinzi, Chatelin, & Lauro, 2005). Using a Monte Carlo simulation, Chin and Newsted (1999) present a study on PLS-SEM approach with small samples. They found that the underlining model could provide information about the appropriateness of indicators at sample size as low as 20. They, however, suggest a range of 30 to 100 cases as the minimum number of observations that should be used for PLS-SEM analysis.

3.7.2.4 Measurement Model

PLS-SEM, in contrast to CB-SEM, enables researchers to be more flexible in specifying the measurement model Specifically, the relationships between indicators and constructs can be modeled as reflective or formative in PLS-SEM approach (Chin, 2010; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Hair Jr, Joe Sarstedt, Marko Hopkins, Lucas Kuppelwieser, et al., 2014; Henseler et al., 2009). However, CB-SEM have been criticized by its careless modeling of formative measurement, therefore, PLS-SEM is normally considered the "natural choice" to formative measurement since it avoids identification problems that usually happen when CB-SEM is being used (Chin, 2010; Hair Jr, Joe Sarstedt,

Marko Hopkins, Luca Kuppelwieser, et al., 2014; Hair Jr, Joe Sarstedt, Marko Hopkins, Lucas Kuppelwieser, et al., 2014; Henseler et al., 2009).

Equipped by these rules of thumb, this study employed the PLS-SEM approach in preference to CB-SEM approach the decision to apply this approach is because: (1) the nature of this study is to explore and predict the relationships among independent variables and dependent variable, that is, to explain the variance of government's information technology innovativeness rather than to confirm or to reject specific theoretical rationale. (2) PLS-SEM also has capabilities for examining and confirming theories. (3) The research model of this study comprises both reflective and formative constructs, has second order construct, and includes an interaction effect. Since specification of the measurement model and the structure model under the PLS-SEM approach enable flexibility in modeling such research settings, therefore, it was more appropriate for analysis. (4) PLS-SEM approach has been designed to relax the hard assumptions set by CB-SEM with regard to normality and number of observations, which is hard to achieve in business research. Next chapter discusses and employs the PLS-SEM technique in analyzing the proposed framework.

Arising from the above, therefore, this study makes use of PLS-SEM as a tool for this analysis of data. This is because it is second generation and robust tool that is capable of analyzing the relationship between the multiple exogenous and endogenous constructs concurrently (Hair et al., 2014; Ramayah, 2014). Thus, in the context, the relationship between the management support, IT readiness, Government strategy, and the IT innovativeness can be run simultaneously. It is also a tool of choice because it has high capacity to accommodate computation of moderating effect with high level of accuracy (Hair et al, 2014)

3.8 Conclusion

This chapter showing the conceptual frame work of the study, followed by the Development of the hypotheses, the design of the Research and questionnaire, Data Screening. The next chapter discuses more about data analysis.

CHAPTER FOUR

DATA ANALYSIS

4.1 Introduction

This chapter is designed to empirically achieve research objectives specified in Chapter One and to test the suggested research hypotheses presented in Chapter Three. This chapter introduces the necessary steps conducted by researcher to ensure that the results from applying PLS-SEM are valid and reliable. The researcher, in section 4.2 started by Descriptive analysis, followed by specifying the path model including structure and measurement models in section 4.3. Section 4.4 focuses on path model assessment. Both measurement and structure models are evaluated in this section. Finally, summary of study's results is presented in the last section 4.5. Figure 4.1 depicts the flow of the data analysis procedures.

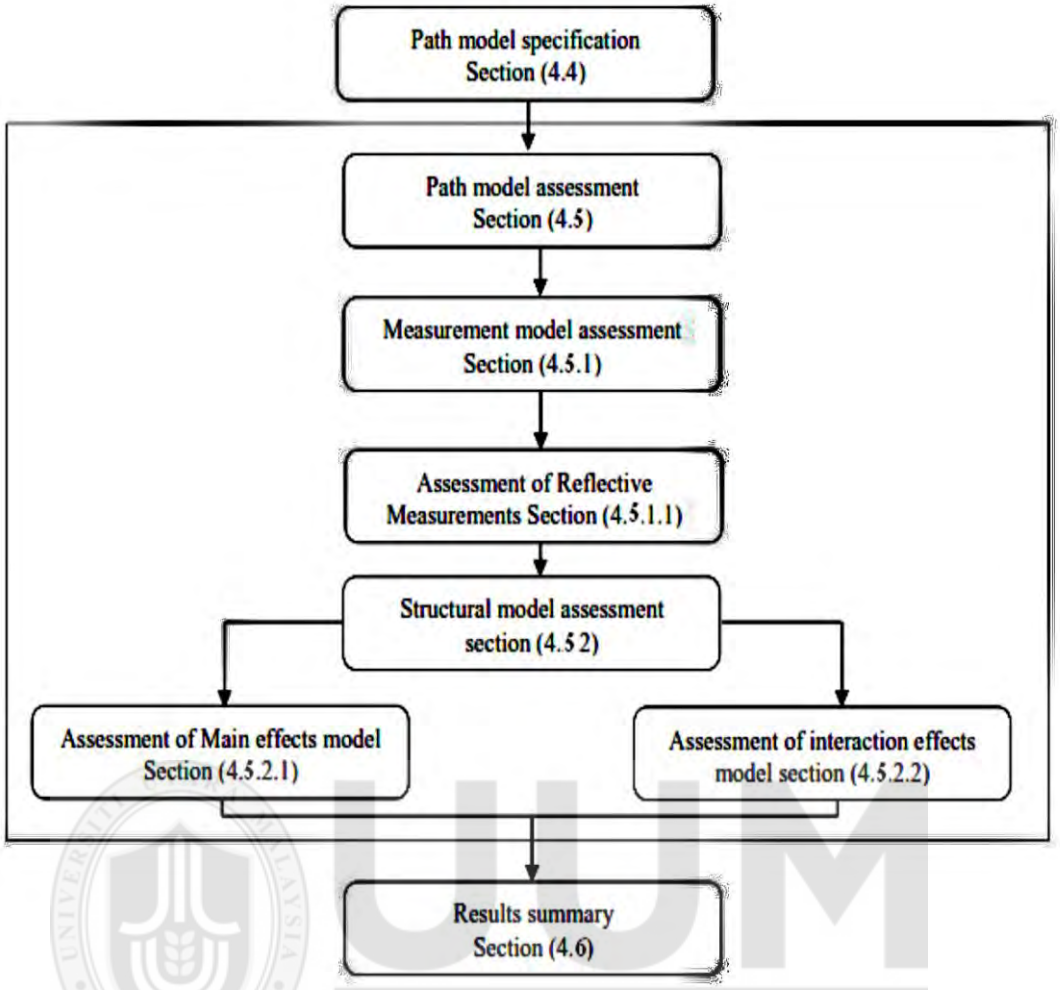

Figure 4.1: The Flow of Analysis Using PLS-SEM
Source: (Ahmad et al., 2015)

4.2 Descriptive Analysis

This section reports information about the empirical data that have been collected for this study. Such information is important since it enables the researcher to make informed judgments about the soundness of the choices made and conclusions reached. It also provides the researcher and readers with necessary information about the research settings and thus enables them to make comparisons with other research results in the same area (Gefen et al., 2011). Therefore, to understand the characteristics of the sample in this study, this section shows some of the demographic information about the managers that participated in the internet survey. Finally, in the last part, the descriptive statistics about the research variables are provided.

4.2.1 Respondents Demographic Data

The questionnaires of this study targeted managers as respondents for this research. Those managers represent their departments as a whole up to the upper level management and have the knowledge and experience to participate in this online survey. This section discusses the demographic profile of key informants who completed the online survey questionnaires on behalf of their governmental instructions. The internet survey was designed to collect the respondents' gender, age, and experience in general and in the current position, educational level, position's title and the working ministry. The results are presented and discussed below.

Table 4.1 shows that majority of the respondents hold managerial position with manager (C = 34%, B = 33.5%, A = 20.5%, A4 = 8% and A3 = 4%). To trace the effect of senior staffs and others group on the research results, this study performed additional analyses as discussed in this chapter.

However, approximately 51% of the respondents in the online survey had more than 15 years of experience in general and approximately 47.5% of the respondents had less than 5 years in their current position. On average, more than 52.5% of the informants hold Bachelor degree, around 41 % hold Master degree and 5% PhD degree. This suggests that respondents had sufficient knowledge and experience to participate in the internet survey and to supply reliable data for this study.

Table 4.1: Participants Demographics Information

		Frequency	**Percent**
Age group	More than 50 years old	121	33.5%
	40 – less than 50 years old	151	41.8%
	30 – less than 40 years old	76	21.1%
	Less than 30	13	3.6%
Total		**361**	**100.0%**
Job Title	Unit manager (C)	124	34.3%
	Unit managers (B)	121	33.5%
	Deputy Director (A)	74	20.5%
	General Director (A4)	28	7.8%
	General Director (A3)	14	3.9%
Total		**361**	**100.0%**
Gender	Male	292	80.9%
	Female	69	19.1%
Total		**361**	**100.0%**
Qualification	B.Sc.	191	52.9%
	Master	150	41.6%

	Ph.D.	18	5.0%
	other : diploma	2	0.6%
Total		**361**	**100.0%**
Years of Experience	More than 15 years	187	51.8%
	10 – less than 15 years	105	29.1%
	5 – less than 10 years	60	16.6%
	Less than 5 years	9	2.5%
Total		**361**	**100.0%**
Years of experience in the current Job title	Less than 5 years	171	47.4%
	5 – less than 10 years	133	36.8%
	10 – less than 15 years	33	9.1%
	More than 15 years	24	6.6%
Total		**361**	**100.0%**

Respondents' age and gender were also obtained from the survey. Majority of the respondents are male and accounted for 81% surveys. This is consistent with the Palestinians culture of which masculinity dominates in most aspects of life. In target groups, majority of respondents were in the age group of 40 – less than 50 years old. More precisely, the age category between 40 – less than 50 years old accounted for 41.8% of total respondents in the survey.

Finally, The highest participation come from Ministry of Health and Ministry of Education and higher education with percent's 23% and 19.4% respectively, table 4.2 represents the frequent of the participation of each ministry and the percent to the total sample of each and Participants.

To view the respondent's feedback with regard to the research variables and related questions, next section reports this information in details.

Table 4.2: Participation of each Ministry

		Frequency	Percent	total population	percent to the population
Working Ministry	Ministry of Health	83	23.0%	188	44%
	Ministry of the Government Affaires	46	12.7%	99	46%
	Ministry of Finance	15	4.2%	84	18%
	Ministry of the Interior	7	1.9%	79	9%
	Ministry of Education and Higher Education	70	19.4%	74	95%
	Ministry of Religious Affairs	45	12.5%	64	70%
	Ministry of Agriculture	3	0.8%	53	6%
	Ministry of National Economy	13	3.6%	43	30%
	Ministry of Public Works and Housing	16	4.4%	35	46%
	Ministry of Labor	8	2.2%	30	27%
	Ministry of Information Technology	19	5.3%	29	66%
	Ministry of Justice	7	1.9%	29	24%
	Ministry of Social Affairs	7	1.9%	26	27%

Ministry of Youth and Sport	1	0.3%	19	5%
Ministry of Transport and Communication	3	0.8%	18	17%
Ministry of Planning	5	1.4%	11	45%
Ministry of Foreign Affairs	2	0.6%	11	18%
Ministry of Culture	2	0.6%	10	20%
Ministry of Media	3	0.8%	10	30%
Ministry of Women's Affairs	5	1.4%	7	71%
Ministry of Tourism and Antiquities	1	0.3%	3	33%
Total	**361**	**100.0%**	**922**	

4.2.2 Descriptive Analysis of Research Variables

Descriptive statistics provide an indication to the representation of the sample. Descriptive statistics of the research dimensions through mean value give the researcher and the readers a detailed view of how the informants in the study responded to the online survey questions (Sekaran & Bougie, 2010). Accordingly, descriptive statistics were computed and conducted to summarize and describe the main characteristics of a data set from target sample group. Respondent's perspective on every dimension of the variables, namely: Intention for the information technology innovativeness, management support, IT readiness, government strategy and organizational culture are provided with general descriptive statistics on each internet survey item as follows.

The summarized descriptive analysis of the constructs, as contained in Table 4.3, reveled the mean score of each variable. The IT innovativeness has the highest mean score 4.518 and a standard deviation of 0.7886, while IT readiness has the least mean score of 4.498 with a standard deviation of 0.734.

Table 4.3: Descriptive Analysis of the Constructs

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
IT Innovativeness	358	1.00	6.40	4.5184	.78861
MSO	358	1.75	6.50	4.5049	.73346
ITR	358	2.00	5.60	4.4983	.73423
GOV	358	1.60	6.40	4.5101	.69432
ORG	358	2.15	6.15	4.5105	.64852
Valid N (listwise)	358				

In the next subsections, the mean of the indicator for each of the variables is discussed.

4.2.2.1 Information technology innovativeness

Table 4. 3 presents the perception of Information technology innovativeness. Be in view of managers sides. The overall mean score across managers were 5.8, indicating positive intention for the information technology innovativeness.

Table 4.3: Descriptive Statistics for Perception of IT Innovativeness Intention.

IT innovativeness Intention dimensions	Mean
The management in the government actively seeks innovative ideas for information technology	5.81
Information technology Innovation is readily accepted in this governmental instigation	5.53
Information technology Innovation in this governmental institution is not perceived as too risky, and is resisted	5.83
Employees not penalized for new information technology ideas that do not work	6.01
The government readily accepts information technology innovations based on research results	5.77
Overall Mean	**5.79**

4.2.2.2 Management Support

Table 4.4 shows that management believe in the importance of information technology innovativeness and the extent to which they could support and adapt the information technology innovativeness. Based on the results presented in Table 4.4, majority of the respondents demonstrate that their top management believes that information technology innovativeness is somewhat important to the governmental

work. In addition, the extent to which the management has support the information technology innovativeness related activities is also presented in this Table 4. 4. The result suggests that majority of respondents believe that their management involved in information technology innovativeness support and adoption with mean score indicating 5.3.

Table 4.4: Descriptive Statistics for Perception of the Management Support.

management support dimensions	**Mean**
Management are interested in new technology and try to adapt to it	5.57
Management are actively considering the introduction of new technology to solve the governmental institutional problems	5.55
Management try to keep a technological leading edge by adapting new technology	5.29
Management tend to take risks in decision-making of new technology introduction	4.75
Overall Mean	**5.29**

4.2.2.3 Information Technology Readiness

Table 4.5 shows the level of capital financial and non-financial capabilities for the information technology innovativeness across the responding groups. In general, the target group somewhat agreed that they have enough capabilities and resources to support and invest in the information technology innovativeness with overall mean scores (mean=5.26).

Table 4.5: Descriptive Statistics for Perception of IT Readiness.

IT Readiness dimensions	Mean
The government is able to invest more in information technology	4.89
We are facing tighter information technology budget limitations than we did before	4.51
Governmental intuitions and employees that develops new information technology usage critical to the governmental success	5.71
The governmental working process continuously requires innovation in information technology	5.92
Government keeps abreast with information technological developments	5.27
Overall Mean	**5.26**

4.2.2.4 Government strategy

Table 4.6 shows the degree to which the respondents perceive information technology innovativeness is compatible with government and governmental institutions strategies. The respondents agree that information technology innovativeness is somehow compatible with government strategy, with overall mean=4.3.

Table 4.6: Descriptive Statistics for Perception of Government Strategy

Government strategy dimensions	Mean
Information technology effects have been considered in the strategies of the governmental institutions	5.08
The governmental institutions are able to consciously analyze the contribution of Information technology in enhancing the government effectiveness	4.95

The effects of information technology on realizing the strategy of the governmental working process are well understood	4.95
The alignment between business strategy and the strategy of the information technology has been achieved	4.52
The government has set different priorities for information technology projects in the strategy of the governmental institutions technology	5.13
Overall Mean	**4.93**

4.2.2.5 Organizational Culture

Finally, Table 4.7 presents the perception of the extent of the organizational culture support for the information technology innovativeness in the governmental institutions in the view of the manager's side. The result highlights overall mean score 5.4.

Table 4.7: Descriptive Statistics for Perception of Organizational Culture.

Organizational Culture Dimensions	**Mean**
The government understands the importance of information technology innovativeness for the success of the governmental institutions	5.7
In the governmental institutions, high levels of participation are expected in transferring information technology innovativeness	5.46
The governmental institutions are encouraged to explore and experiment their information technology expertise	5.37
In the governmental institutions, on-the-job technology learning is valued	5.51
The governmental institutions are valued for their individual and institutional information technology expertise	5.35
In the governmental institutions, employees are encouraged to ask others for assistance when needed	5.4

In my governmental institution the employees are encouraged to interact with other groups have more experiences in the field of information technology	5.27
In the governmental institutions, employees are encouraged to discuss their technology knowledge with people in other workgroups	5.22
In the governmental institutions, overall organizational vision is clearly stated	5.44
In the governmental institutions, overall organizational objectives are clearly stated	5.47
My institution shares its technology knowledge with other institutions (e.g. governmental, nongovernmental)	5.22
The benefits of information technology innovativeness outweigh the costs	5.39
The government senior management clearly attributes the institute's success to the information technology innovativeness	5.26
Overall Mean	**5.39**

In summary, this section provides important information to understand the characteristics of the samples. The demographic informant's information informants across the managerial classifications have been presented. Then, the descriptive statistics have been provided for all research variables and its items. Next section, explains data screening procedures to ensure readiness of the data for further analysis.

4.3 Data Screening

The data screening is a process of examining appropriateness of the collected data for further analysis. This process is essential before incorporating the data in sophisticated regression analysis (Hair, Sarstedt, Ringle, & Mena, 2012; Sekaran & Bougie, 2010; Zikmund et al., 2012). It includes treatment of data entry errors,

missing data, examination of data normality, and examination of non-response bias (Hair et al., 2012). The following section provides details about each process.

4.3.1 Missing Data and Data Entry Error Treatment

Data screening was carried out to assess the data before conducting further statistical analyses. To identify any human errors during data entry process, extreme values have been examined by descriptive analysis of the data. It was observed that there is no item that had any extreme value outside the 7-point scale. For each item, the values were varied between 1 and 7. Furthermore, some items, which were negatively formulated in the questionnaire, were reversely coded at this stage.

Missing data, however, is another important issue in survey process that could cause serious problems during data analysis (Hair, 2010; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Zikmund et al., 2012). Particularly in PLS-SEM. It takes place when information is not provided for particular questions in the survey. Missing data could be as a result of several reasons, such as, human mistakes during data entry, misunderstanding of the questions by respondents, and/or the respondents are either not willing to answer the question or didn't know the light answer (Hair, 2010).

This study applied online questionnaire by google online forms, and the respondents cannot submit the question if all of the questionnaire questions is answered, we have 361 valid responses, which were used for the further analysis.

4.3.2 Outliers Identifications

An outlier is an observation with unique characteristics that distant from other values in a random sample from a population (Hair, 2010) . It can be an extreme value to a particular question, or extreme values to all questions. In general, statistical inferential tests can be relatively sensitive to outliers, often because, the calculations rely on squared deviations from the mean (Hair, 2010). Although, PLS-SEM is not affected by outliers (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Henseler & Sarstedt, 2013), several researchers do also recommended examination and elimination of observed outliers before starting the hypotheses testing (Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014).

Practically, researchers usually identity outlier observations by examining the extent to which a particular response is departed from the normal distribution of the sample (Hair, 2010).In this process, researchers most often convert the data values into standard scores which have mean and standard deviation of zero and one accordingly. According to the rule of thumb, the threshold value of standard scores is up to four (Hair, 2010). Once the outlier values are identified, the researcher must decide whether to retain or delete them.

This study synchronously used two levels to deduct the degree to which scores values of particulate item is far from its mean, multivariate and univariate analysis by IBM SPSS software. By using multivariate and univariate analysis usually, recommend some observations (called influential observations) that could be outliers. In the multivariate analysis by the linier regression option we found MAH values for all of the respondents and by comparing the results with chi square value 62.4872 (giving p-value 0.001 and n=32) The result indicates 20 multivariate

outliers respondents see (appendix C) , the treatment process of multivariate results will be with the univariate analysis outliers by comparing the multivariate outliers (MAH values) with z scours results of the respondents, four values less than or greater ± 4 consider as outliers values in the Z score analysis deducted (Hair Jr et al., 2015) you can see the Z scores for items that have influencing values (appendix D). by comparing the results of multivariate and univariate analysis three responds deducted as outliers.

4.3.3 Normality

An estimation of the normality of data is a prerequisite for many statistical tests. It is important to confirm that the data are not too far from normal distribution an extremely non-normal data is problematic in the evaluation of the parameters' significances and distorts the results of multivariate analysis(Hair, 2010). Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al. (2014) suggest that even though PLS has soft constraint regarding normality assumption, it is important to verity that the data are not extremely non-normal, as extremely non-normal data increases standard errors obtained from bootstrapping procedure. Therefore, researcher should still examine normality before performing PLS analysis.

In view of that, Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al. (2014) recommend that two measures of distribution should be examined, including skewness and kurtosis. Skewness measures the degree to which a variable's distribution stretches towards the right or left tail of the normal distribution curve. On the other hand, Kurtosis is an assessment of whether the distribution of data is too peaked or very narrow to the central Theoretically, the pattern of particular values is considered normal distribution when skewness and kurtosis are close to

zero (Hair, 2010; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014), which is a situation that is very unlikely to happen (Davcik & Nebojsa, 2014; Hair et al., 2011). Practically, the level of skewness and kurtosis is acceptable when their absolute values are not greater than the absolute value of one (Hair, 2010; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014). However, if the values are not in that range, transformation of variables is suggested to resolve normality problem (Hair, 2010). Another consideration is the number of items for each construct, when only values of one or two items are non-normal, the researcher has to look at the normality of the construct as a unit (Hair et al., 2014).

Accordingly, using descriptive analysis incorporated in SPSS 21, skewness and kurtosis test have been executed for all items in the online survey. The skewness and kurtosis values of survey items in the survey ranged between -2 and +2, which are well below the level suggested for transformation (Garson, 2012) see (appendix E). Visual inspection, another popular normality test method to check the normality of the data, using frequency analysis option in SPSS 21, the histograms bill of the normality we can see that most (more than the half) of the respondents within the bill of normality distribution (Hair Jr et al., 2015). See (appendix F)

4.3.4 Non-response Bias Assessment

Non-response bias is another important methodological issue in internet survey research and can compromise the study results. It typically focuses on comparing responses of late-stage with responses of early-stage (Armstrong & Overton, 1977). In general, delayed responses are interpreted as a lack of interest or commitment particularly on the part of respondents and thus, differences in responses can be due

to substantial delay in responding to an online survey (Armstrong & Overton, 1977).

To evaluate whether there is non-response bias, this study followed the method suggested by (Armstrong & Overton, 1977). That is, comparing the responses of early and late respondents with respect to all online survey items. With this, the descriptive analysis of the early and late response of the five construct was done. As contained in Table 4.8, there is no significant difference in the mean of the early and late response. This is also applicable to the standard deviation and the standard error.

Table 4.8: Descriptive Analysis of Early and Late Response

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
IT	early response	205	4.4029	.76376	.05334
	late response	153	4.6732	.79728	.06446
MSO	early response	205	4.4183	.76878	.05369
	late response	153	4.6209	.66831	.05403
ITR	early response	205	4.4839	.72840	.05087
	late response	153	4.5176	.74393	.06014
GOV	early response	205	4.5073	.66347	.04634
	late response	153	4.5137	.73584	.05949
ORG	early response	205	4.3340	.69042	.04822
	late response	153	4.7471	.49966	.04040

Further, the independent samples t-test was carried out to determine whether there is a significant difference between the early and late response for the five constructs. As shown in Table 4., there is no significant difference in the early and the late response that can constitute threat to the overall result.

Table 4.9: Sample t-test of Equality

Independent Samples Test								
		Levene's Test for Equality of Variances	t-test for Equality of Means					
		F	t	df	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
							Lower	Upper
IT	Equal variances assumed	.372	-3.251	356	-.27028	.08315	-.43379	-.10676
	Equal variances not assumed		-3.230	319.752	-.27028	.08367	-.43488	-.10567
MSO	Equal variances assumed	2.451	-2.607	356	-.20262	.07773	-.35549	-.04975
	Equal variances not assumed		-2.660	347.759	-.20262	.07617	-.35244	-.05281
ITR	Equal variances assumed	1.980	-.430	356	-.03374	.07853	-.18819	.12070
	Equal variances not assumed		-.428	323.812	-.03374	.07877	-.18872	.12123
GOV	Equal variances assumed	1.380	-.086	356	-.00641	.07428	-.15250	.13968
	Equal variances not assumed		-.085	307.942	-.00641	.07541	-.15479	.14197
ORG	Equal variances assumed	1.733	-.275	356	-.00315	.06584	-.14263	-.18367

Equal variances not assumed	-6.568	355.690	-.00315	.06291	-.13686	-.18944

4.3.5 Multicollinearity Test

Multicollinearity refers to a situation in which or more exogenous latent constructs become highly correlated. The presence of multicollinearity among the exogenous latent constructs can substantially distort the estimates of regression coefficients and their statistical significance tests (Chatterjee & Yilmaz, 1992; Hair, Black, Babin, Anderson, & Tatham, 2006). In particular, multicollinearity increases the standard errors of the coefficients, which in turn render the coefficients statistically non-significant (Tabachnick & Fidell, 2007).

To detect multicollinearity, two methods were used in the present study (Chatterjee & Yilmaz, 1992). First, the correlation matrix of the exogenous latent constructs was examined. According to Hair (2010), a correlation coefficient of 0.70 and above indicates multicollinearity between exogenous latent constructs. Table 4.8 shows the correlation matrix of all exogenous latent constructs.

Table 4.10: Correlation Matrix of the Exogenous Latent Constructs

		Correlations				
NO	**Latent Constructs**	**IT Innovativeness**	**Management Support**	**IT Readiness**	**Government Strategy**	**Organizational Culture**
1	IT Innovativeness	1				
2	Management Support	.663**	1			
3	IT Readiness	.393**	.499**	1		
4	Government Strategy	.514**	.608**	.380**	1	
5	Organizational Culture	.624**	.688**	.495**	.611**	1

**. Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 4. 8, the correlations between the exogenous latent constructs were sufficiently below the suggested threshold values of .90 or more, which suggests that the exogenous latent constructs were independent and not highly correlated.

4.3.6 Homoscedasticity

This supposition related mainly to the dependent variable. It was the supposition that, crosswise the range of independent variables, the dependent variables must display an equivalent level of variance (Hair, 2010). In an IV-DV connection, the dependent variable diverse as the independent variable was manipulated or diverse. It thus destined that the variance of the dependent variable was not clarified by attention on a limited number of the independent variable values. This allowable for a reasonable test of the connection.

Homoscedasticity was also verified through scatter plot drawing of standardized residuals. Since SPSS used standardized residuals for the scatter plot, based on Appendices I, the Homoscedasticity assumption had been met.

The independent variables varied, the dependent variable varied just to show that each of the independent variables contributed to the variation in the dependent variable. Thus, the assumption of homoscedasticity was fulfilled for the independent variables.

4.3.7 Linearity

Linearity of connection as a supposition in multiple regressions was used to signify the grade to which the modification in the dependent variable was linked with the independent variable. It presented the level to which connection between variables

could be exposed in a straight line. Linearity was the foundation for improvement that was, in turn, serious for regression analysis. Meanwhile multiple regression models was founded on linearity of multivariate relationships, the linearity supposition was critical (Hair, 2010). The linearity test was conducted through the graph-legacy diagrams-scatterplot-simple scatter procedures in SPSS 21.

The output of the scatter plot as presented in Appendix I plots showed a rough straight line and not a curve. This meant that the residuals of independent variables had a straight-line relationship with the predicted values of dependent variable. Thus, there were a linearity of relationship between the dependent variable and the independent variables. The data thereby satisfied the linearity assumption of multiple regressions.

4.4 Path Model Specification

Application of PLS-SEM in a research project for hypothesis testing requires initial preparing of a diagram that displays the relationships between research variables and demonstrates the research hypotheses that will be examined. Such diagram is usually called a path model (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Sarstedt et al., 2014). Connections between variables should be drawn depend on logic and theory to optically display the hypotheses that will be verified and tested (Davcik & Nebojsa, 2014; Gefen et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Lucas Kuppelwieser, et al., 2014). However, path models are composed of two modules, the structural model (also referred as inner model) and the measurement model (also referred as outer model). Structural model usually portray the relationships between the variables where the arrowhead pointed from exogenous construct (independent variable) to endogenous construct (dependent

variables). On the other hand, measurement models describe the relationships between constructs and their measures (also called indicators or manifest variables) (Davcik & Nebojsa, 2014; Hair Jr, Joe Sarstedt, Marko Hopkins, Lucas Kuppelwieser, et al., 2014; Sarstedt et al., 2014).

In order to build the path model in an appropriate way, attention should be given into the level of constructs' abstraction and types of measurement models (Becker et al., 2012; Polites, Roberts, & Thatcher, 2012; Ringle, Christian Sarstedt, Marko Straub, & Detmar, 2012; Wright, Campbell, Thatcher, & Roberts, 2012). Once the researchers have clear relationships between underlining variables (constructs), determined the abstraction level of constructs, and determined the type of measurements for each construct they will be able to specify the path model in correct way (Polites et al., 2012; Wright et al., 2012).

Accordingly, to convert the proposed framework of this study into a path model, the researcher has identified relationships between five constructs based on RBV, Contingency and DOl theories as depicted in Figure 4.2. IT Innovativeness construct is an endogenous construct affected directly by three exogenous constructs including Management Support, IT Readiness and government strategy. Organizational culture were specified as moderator on all of the specified relationships.

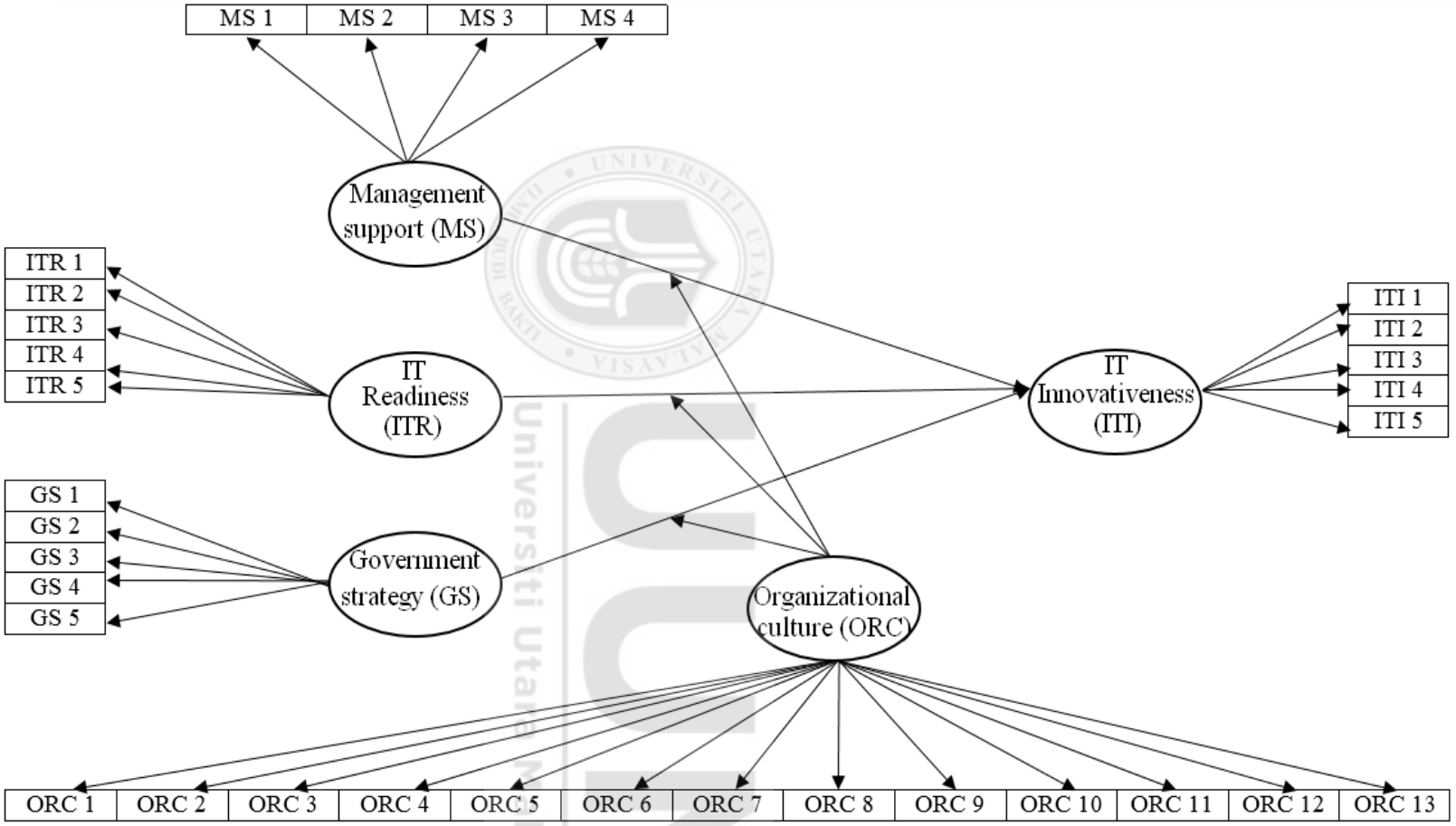

Figure 4.2: The Proposed Path Model

4.4.1 Path Model Assessment

In general, PLS-SEM uses a principal component analysis, path analysis, and regression simultaneously to evaluate the underlining theoretical framework. It starts first by evaluating each construct as an approximation of its corresponding block of manifest indicators. In other words, PLS in this stage evaluates the measurement model of the path model (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Sarstedt et al., 2014). Once, the measurement model evaluation provides satisfactory results, PLS in the next stage run non-iterative series of Ordinary Least Square regression to determine whether the specified relationships are meaningful and significant. In other word, PLS in this stage evaluates the structural model to accept or reject hypotheses suggested in the path model (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Sarstedt et al., 2014).

To do so, Sarstedt et al. (2014) suggest general framework as depicted in Figure 4.3, for assessment of measurement and structure models which has been adopted in this study. Figure 4.3 shows that researchers should start in evaluating the measurement model by looking first into reflective measurement models. Collection of assessment should be applied. Then, if the path model involves formative measurement model, different assessment should be conducted. Once the measurement models are valid and reliable, the researcher can proceed to structure model assessment by performing several tests. This figure also portrayed the outline of this section.

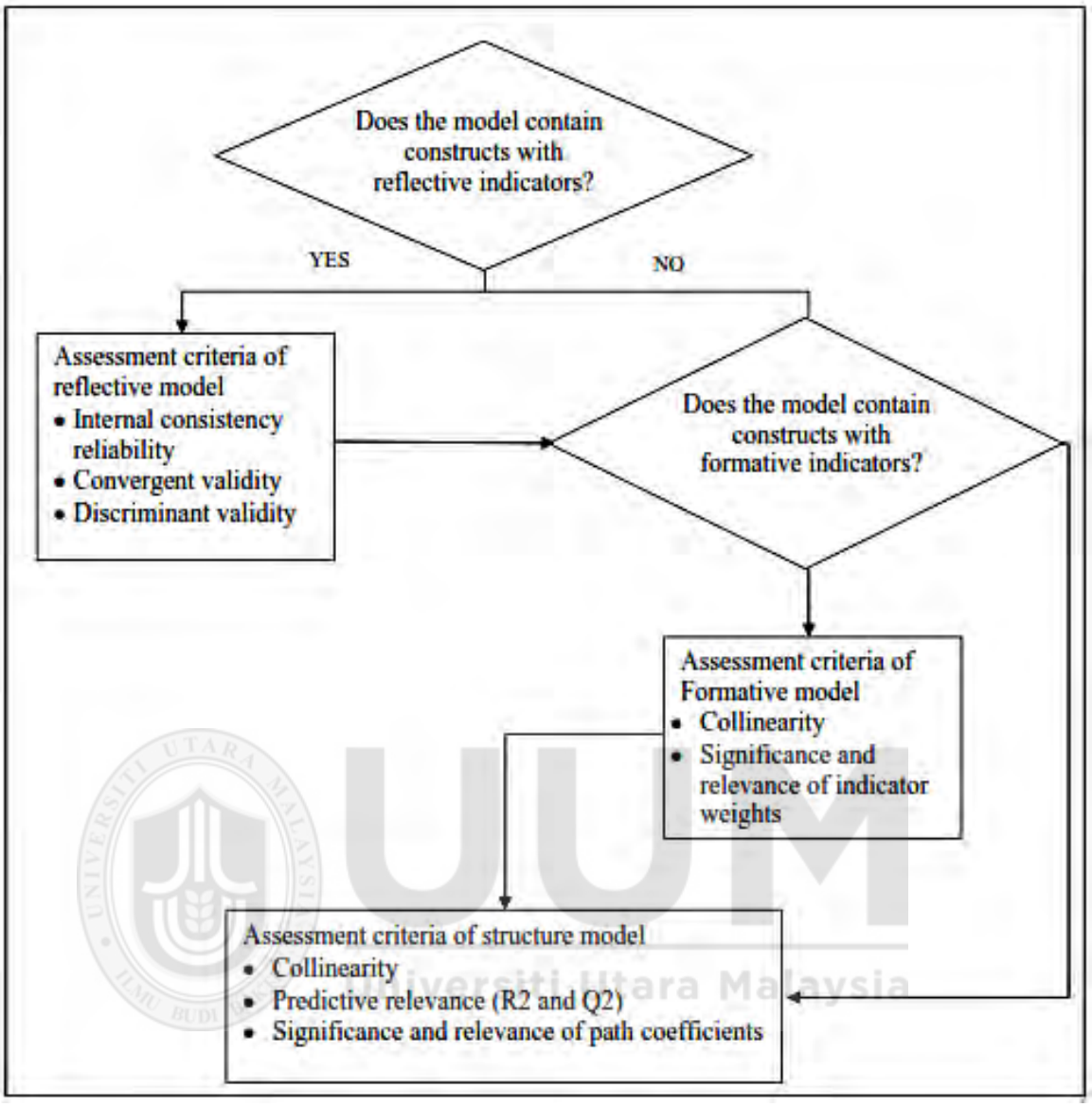

Figure 4.3: Path Model Assessments Guidelines
Source: Sarstedt et al. (2014)

4.4.2 Measurement Model Evaluation

Measurement model evaluation is the first and the prerequisite step for generating results in PLS. It is about testing of measurement's reliability and validity. The assessment of the measurement model in PLS-SEM varies depending on the nature of measurement model itself whether the model includes formative measures or reflective measures (Davcik & Nebojsa, 2014; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Sarstedt et al., 2014).

In general, reflective measurement model assumes that indicators are caused by the construct where all indicators measure the same underlying phenomenon. All indicators are expected to be interchangeable and have a common theme where omission of an indicator will not alter the meaning of the construct (Davcik & Nebojsa, 2014; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Polites et al., 2012; Wright et al., 2012). On the other hand, formative measurement model assumes that indicators cause the latent construct. In this sense, the phenomenon of interest is founded by the presence of underlying measures (Davcik & Nebojsa, 2014; Diamantopoulos et al., 2008; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Polites et al., 2012; Wright et al., 2012). In other words, the indicators as a group jointly determine the empirical meaning of the construct and each indicator describes a different aspect of the construct. Thus, formative indicators are not expected to be interchangeable and dropping an indicator will influence the essence of the latent variable (Davcik & Nebojsa, 2014; Diamantopoulos et al., 2008; Hair Jr, Joe

Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Polites et al., 2012; Wright et al., 2012).

Due to these differences, each type of measurement model has very different set of criteria compared to each other. If the case is reflective measurement model, indicators reliability, internal consistency reliability, convergent validity and discriminant validity are the key concerns. In contrast, in formative measurement model, the. Researcher's interests are to examine, co-linearity, significance and relevance of indicator weights (Davcik & Nebojsa, 2014; Diamantopoulos et al., 2008; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Polites et al., 2012; Wright et al., 2012). Next section discusses the result of reflective assessment model

4.4.2.1.1 Path Coefficient and Significance Test (β)

Usually, sign, path coefficient (β), and t value are used for hypotheses testing in PLS (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009). Path coefficient can be interpreted as standardized beta coefficients of ordinary least squares regressions. Values of Path coefficient are standardized on a range from -1 to +1. When coefficients are closer to +1, it represents strong positive relationships. On the other hand, when coefficients are closer to -1, it indicates strong negative relationships (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009). Once the path coefficients are generated, the significance of each path coefficient can be assessed by means of a bootstrapping procedure that calculates t-values for each path coefficients. Paths coefficients are not significant when their sign are contrary to

the hypothesized direction, whereas significant paths viewing the hypothesized path empirically support the suggested underlying relationship (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009).

To assess the significance of the various effects included in the model, the researcher first run PLS algorithm which generates the path coefficient Reflective Measurement Model Assessment

To assess the properties and possessions of the measures, this study originally quantified a model for all first order constructs. This is in agreement with M. Carter, Wright, Thatcher, and Klein (2014) and Wetzels et al. (2009) guidelines. Then, the indicators and composite reliability, convergent validity, and distinguish validity have been observed and examined.

4.4.2.1.2 Indicators and Composite Reliability

Since they represent the same underlying theoretical concept, reflective indicators are required to be highly correlated (Davcik & Nebojsa, 2014; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Wetzels et al., 2009). Cronbach's alpha is one of the most popular tests for indicators reliability. It postulates that all indicators are equally reliable and each indicator should be typically more than 0.7 (Davcik & Nebojsa, 2014; Diamantopoulos et al., 2008; Hair, 2010; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009). On the other hand, internal consistency reliability examines the extent to which construct indicators are inter-correlated assuming that not all indicators are equally reliable. Internal consistency reliability is usually represented by composite

reliability and it can be understood in the same way as Cronbach's alpha (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Sarstedt et al., 2014).

Table 4.10 presents key statistics of Cronbach's Alpha for all items in the online surveys, the initial analysis shows that the majority of the items were loading appropriately between 0.509 and 0.888 on their postulated constructs with exception of items namely: OC 7 and OC 13 belongs to Organizational Culture construct. With exception of those two items, the result is in accordance with the rule of thumb where loadings of each item should be to be greater than 0.5 (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Lucas Kuppelwieser, et al., 2014; Sarstedt et al., 2014).

However, OC7 and OC13 exhibit low loadings; the loading was 0.402 and 0.351 respectively. In such case, Hair et al. (2011) suggest that all items that have loading of lower than 0.4 should always be eliminated from reflective scales. Thus, both items have been deleted from this online survey, but the Average Variance Extracted (AVE) of the Government Strategy and Organizational Culture constructs still lower than 0.5 and to repair it the items GS 1 belongs to Government Strategy construct and OC 5, OC 12 belongs to Organizational Culture construct eliminated from reflective scales. The Average Variance Extracted (AVE) we will report in Convergent Validity section.

Table 4.11: *Indicators Reliability*

Construct name	Items	Indicator reliability
IT Innovativeness	ITI 1	0.684
	ITI 2	0.859
	ITI 3	0.888
	ITI 4	0.742
	ITI 5	0.756
Management Support	MS 1	0.862
	MS 2	0.680
	MS 3	0.762
	MS 4	0.509
IT Readiness	ITR 1	0.570
	ITR 2	0.525
	ITR 3	0.825
	ITR 4	0.882
	ITR 5	0.738
Government Strategy	GS 1	0.588
	GS 2	0.616
	GS 3	0.571
	GS 4	0.819
	GS 5	0.813
Organizational Culture	OC 1	0.731
	OC 2	0.802
	OC 3	0.641
	OC 4	0.709
	OC 5	0.557
	OC 6	0.631
	OC 7	0.402
	OC 8	0.730
	OC 9	0.800
	OC 10	0.641
	OC 11	0.706
	OC 12	0.598
	OC 13	0.351

"Values indicate all Values after deletion

However, since Cronbach's Alpha postulates that all indicators are equally reliable, scholars believe that it should not be given much credence to estimate the construct reliability. Instead, composite reliability assumes that all indicators are not equally reliable and thus there are greater deal that composite reliability is a better sign of the internal consistency than the Cronbach's alpha (Chin & Newsted, 1999; Davcik & Nebojsa, 2014).

Table 4.11 shows that composite reliability of all constructs were high in the samples ranging between 0.752 and 0.898. These figures are above the conventional reliability threshold of 0.7 providing an evidence of internal consistency for all constructs. Therefore, it can be concluded that the constructs are appropriate for further analysis (Davcik & Nebojsa, 2014; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Lucas Kuppelwieser, et al., 2014).

Table 4.12: Composite Reliability of the Underlining Constructs

Construct name	Composite Reliability
IT Innovativeness	0.892
Management Support	0.759
IT Readiness	0.834
Government Strategy	0.752
Organizational Culture	0.898

4.4.2.1.3 Convergent Validity

Convergent validity shows that whether or not a set of indicators represents one and the same underlying construct (Fornell & Larcker, 1981; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Sarstedt et al., 2014). To examine that, Fornell and Larcker (1981) proposed the Average Variance Extracted (AVE) as a standard for testing convergent validity. AVE signifies to the amount of variance the indicators share with their respective construct. Theoretically, it is essential that indicators share more variance with their respective construct than with other constructs in the model (Fornell & Larcker, 1981; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Sarstedt et al., 2014).

The results in Table 4.12 demonstrate the AVE of each construct in the sample. It shows that AYE's were ranging between 0.508 and 0.619. Based on rule of thumb, an AVE value of more than 0.5 ensures sufficient convergent validity. It is argued that if a construct has AVE's value of more than 0.5, researchers can claim that this construct is able to explain more than half of its indicators' variance (Fornell & Larcker, 1981; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Sarstedt et al., 2014). Hence, the results of AVE analysis demonstrate sufficient and satisfied convergent validity in the sample.

Table 4.13: Average Variance Extracted (AVE) of Underlining Constructs

Construct name	Average Variance Extracted (AVE)
IT Innovativeness	0.619
Management Support	0.514
IT Readiness	0.518
Government Strategy	0.510
Organizational Culture	0.508

4.4.2.1.4 Discriminant Validity

Discriminant validity demonstrates the degree to which a construct is empirically distinct from other constructs in the structure model This is reflected in how much indicators of a particular construct are different from indicators of other constructs (Fornell & Larcker, 1981; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Sarstedt et al., 2014). Two methods are available to determine the discriminant validity namely; Fornell and Larcker method and cross-loadings method (Fornell & Larcker, 1981; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Sarstedt et al., 2014). In the first method, Fornell and Larcker (1981) suggest that discriminant validity is established when the AVE of an individual construct is greater than the squared multiple correlation of that construct with other constructs. On the other hand, the second method focus on the indicators' cross loadings where an indicator should load more on its postulated construct more than the other constructs (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009; Sarstedt et al., 2014).

This study used the both methods to determine the discriminant validity of underlining constructs across marketing and purchasing samples. In Table 4.13, the AVE square root of all constructs in the sample are presented. It indicates that the

square root of the AVE for each construct in the sample was greater than its correlation with the other constructs suggesting strong properties of discriminant validity.

On the other hand, the results of cross-loading method are presented in Table 4.14. Table 4.14 show that, all indicators load higher on their respective construct than any other constructs in the path model This would suggest that all indicators loaded distinctly on the specified construct they measured, thus signifying discriminant validity of all the constructs in the sample. Therefore, both analyses obviously point out that all constructs in the path model exhibits discriminant validity.

Table 4.14: AVE Square Root

	Management Support	IT Readiness	Government Strategy	Organizational Culture	IT Innovativeness
Management Support	**0.717**				
IT Readiness	0.313	**0.720**			
Government Strategy	0.430	0.403	**0.714**		
Organizational Culture	0.239	0.097	-0.060	**0.713**	
IT Innovativeness	0.704	0.454	0.293	0.387	**0.787**

Table 4.15: Cross Loading for All Indicators in the Sample

	IT Innovativeness	Management Support	IT Readiness	Government Strategy	Organizational Culture
ITI01	**0.667**	0.280	0.330	0.134	0.263
ITI02	**0.846**	0.421	0.377	0.135	0.379
ITI03	**0.875**	0.427	0.400	0.132	0.382
ITI04	**0.758**	0.726	0.388	0.395	0.209
ITI05	**0.771**	0.667	0.288	0.262	0.315
MS01	0.798	**0.859**	0.403	0.395	0.210
MS02	0.269	**0.685**	0.085	0.217	0.110
MS03	0.328	**0.766**	0.075	0.202	0.234
MS04	0.251	**0.510**	0.088	0.388	0.098
ITR01	0.141	0.051	**0.557**	0.086	0.112
ITR02	0.147	0.053	**0.511**	0.109	0.099
ITR03	0.317	0.218	**0.828**	0.401	0.009
ITR04	0.374	0.273	**0.885**	0.423	0.040
ITR05	0.460	0.336	**0.740**	0.271	0.124
GS02	0.149	0.235	0.225	**0.618**	0.041
GS03	0.098	0.250	0.183	**0.576**	0.084
GS04	0.268	0.319	0.343	**0.817**	-0.095
GS05	0.255	0.402	0.345	**0.813**	-0.092
OC01	0.199	0.162	0.097	-0.104	**0.732**
OC02	0.398	0.247	0.086	-0.097	**0.802**
OC03	0.205	0.143	0.051	0.007	**0.641**
OC04	0.244	0.112	0.026	0.020	**0.708**
OC06	0.155	0.064	0.069	0.026	**0.630**

OC08	0.211	0.169	0.108	-0.103	**0.731**
OC09	0.409	0.253	0.096	-0.088	**0.801**
OC10	0.205	0.143	0.051	0.007	**0.641**
OC11	0.256	0.121	0.027	0.022	**0.705**
OC06	0.155	0.064	0.069	0.026	**0.630**
OC08	0.211	0.169	0.108	-0.103	**0.731**
OC09	0.409	0.253	0.096	-0.088	**0.801**
OC10	0.205	0.143	0.051	0.007	**0.641**
OC11	0.256	0.121	0.027	0.022	**0.705**

Summary of Validity and Reliability

The summarized result of validity and reliability is presented in Table 4.16

Table 4.16: Summary of Validity and Reliability Result

Construct	Items	Indicator Loading	Cronbach's alpha	Composite Reliability	AVE	Discriminant Validity
IT Innovativeness	ITI1	0.684	0.890	0.892	0.619	Yes
	ITI2	0.859				
	ITI3	0.888				
	ITI4	0.742				
	ITI5	0.756				
Management Support	MS1	0.862	0.804	0.759	0.514	Yes
	MS2	0.680				
	MS3	0.762				
	MS4	0.509				
IT Readiness	ITR1	0.570	0.837	0.834	0.518	Yes
	ITR2	0.525				
	ITR3	0.825				
	ITR4	0.882				
	ITR5	0.738				
Government Strategy			0.803	0.752	0.510	Yes
	GS2	0.616				
	GS3	0.571				
	GS4	0.819				
	GS5	0.813				
Organizational Culture	OC1	0.731	0.902	0.898	0.508	Yes
	OC2	0.802				
	OC3	0.641				
	OC4	0.709				
	OC6	0.631				
	OC8	0.730				

	OC9	0.800
	OC10	0.641
	OC11	0.706

Taken as a whole, the results in Table 4. in this section provide a clear support that all reflective measurement in the path model met the conventional standards of reliability and validity.

4.4.3 Structure Model Assessment

In fact, the nature of effects between exogenous and endogenous differs for models with and without moderation effect (Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014). Since one of the objectives of this study is to test the significance of the main effects between all exogenous and endogenous constructs, the PLS analysis should be firstly implemented without the moderator, and then the interaction effects can be safely tested in another model (Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014). Therefore, this study executes two models the main effects model and the moderation effects model separately.

In other determine the significance of the construct, the researcher should run the structural model using the bootstrap procedure by generating 500 resamples (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Sarstedt et al., 2014). All statistical tests were assessed at 5 % significance level using one-tailed t-tests because all the hypotheses were unidirectional in nature. The results of the structural model estimates of the sample illustrated in Table 4.9.

Table 4.17*: Path Coefficients and Significant Level of the Structure Models*

Construct Name	β	T Statistics	P-Value
Management Support	0.671	8.007	0.000***

IT Readiness	0.839	2.247	0.012**
Government Strategy	0.046	0.140	0.444

Significant at * p < 0.1 ** P < 0.05 *** P < 0.01

In the model, the results depicted in Figure 4.4 show that the path from Management Support to IT Innovativeness is positive and significant (β = 0. 671; P < 0.00), indicating that as the Management Support increases, so too does the extent of innovativeness, thereby providing support for HI. In addition, the relationship between IT Readiness and IT Innovativeness is positive and significant (β = 0. 839; P < 0.05), indicating that as the IT Readiness for the information technology innovativeness increases, the IT Innovativeness will increase, and this is providing support for H2. However, the bath of Government Strategy to information technology innovativeness is positive and insignificant (p= 0.046; P > 0.05). Thus, the researcher rejects H3.

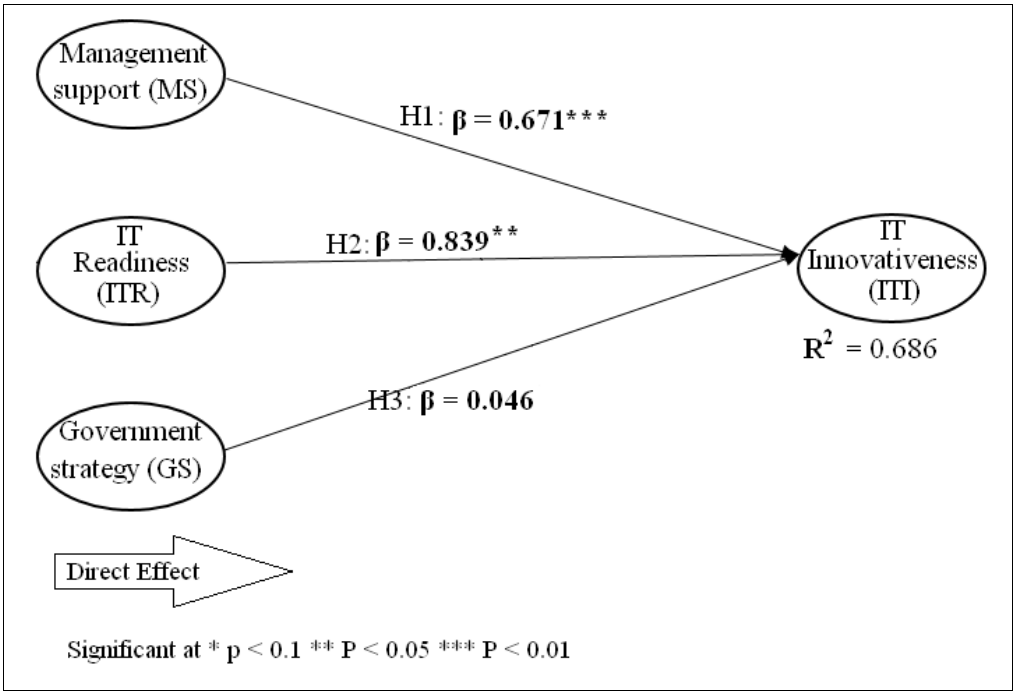

Figure 4.4: Path Coefficients and Significant Level of Structure Model.

4.4.3.1 The Main Effect Model

Typically there are four criteria to assess the structure model including coefficient of determination (R^2) Prediction relevance (Q^2) path coefficient (β), and effect size (f^2) (Hair et al., 2011; Henseler et al., 2009; Sarstedt et al., 2014). However, Multicollinearity is an issue essential to be examined prior to the assessment of structural model Thus, Multicollinearity assessment is presented in the next section

4.4.3.1.1 Multicollinearity

Practically, Variance Inflation Factor (VIF) is a frequently used to inspect Multicollinearity (Petter, Straub, & Rai, 2007). According to the rule of thumb, a VIF value of 5 and higher indicates a potential problem of collinearity (Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014). Using PLS algorithm, VIF values for all constructs are generated and presented in Table 4.18. The values vary between 1.388 and 2.928 which less than the cut-off value of 4.18 Therefore, it can be concluded that the proposed path model in the samples has no Multicollinearity issue.

Table 4.18: Multicollinearity Assessments Using VIF

Coefficients			
NO	**Constant**	**Collinearity Statistics**	
		VIF	
1	management support	2.927	
2	IT Readiness	1.388	
3	government strategy	1.717	
4	organizational culture	2.928	

4.4.3.1.2 Determination Coefficient (R^2)

The preliminary point for testing the structural model is the determination coefficient (R^2). Since the aim of the PLS-SEM is to clarify the endogenous latent variables' variance, R^2 is the most important criteria to assess the structure model. The judgment of R^2 value is highly dependent on the specific research discipline (Davcik & Nebojsa, 2014; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Sarstedt et al., 2014). While R^2 value of 0.75 is

considered high in some disciplines, R^2 values of 0.20 would be perceived as high in other research area (Hair et al., 2011). Accordingly, some researchers such as Chin (2010) describes the general rule of thumb regarding R^2 as values of 0.67, 0.33, and 0.19 are considered as substantial, moderate, and weak, respectively. On the other hand, Cohen (1988) criterion describes that R^2 value of 0.26 or more is considered as substantial, 0.13 as moderate, and 0.02 as weak. However, since the information technology innovativeness is very complex issue and it is very difficult to be predicted (Seng & Mohtar, 2012; Wang et al., 2013), Cohen (1988) criterion is adopted to evaluate the determination coefficient. In innovation and adoption research, several studies use such criteria to evaluate the R^2. For example, Zhao, Xia, and Shaw (2011) and Wang et al. (2013) considered the R^2 0.41 and 0.25 respectively as substantial amounts of variance explained by the proposed independent variables.

However, the result of PLS algorithm shows that an estimated model fits the internet survey data very well in the sample, with R^2 for government's information technology innovativeness intention equal to 0.686 indicating a substantial amounts of variance explained by the proposed independent variables. Accordingly, those figures signify that the structure model explains acceptable variance level of Intention of information technology innovativeness.

4.4.3.1.3 The Predictive Relevance of the Structure Model (Q^2)

Besides looking at the magnitude of the R^2 as a measure for predictive relevance, as Chin (2010) suggests that the researcher should also apply the predictive sample reuse technique To examine the predictive relevance of the model. Predictive

relevance (Q^2) of the structure model is measured by Cross-validated redundancy Chin (2010); (Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009).The Q^2 value is generated based on the predictive sample reuse technique using blindfolding process, This technique excludes data for a assumed construct or a block of indicators and then forecasts the excluded part depend on the calculated parameters. According to the rule of thumb, Q^2 values of 0.02, 0.15 and 0.35 indicate a small, median, or large predictive relevance respectively (Akter, D'Ambra, & Ray, 2011; Henseler et al., 2009).

For model of this study, the construct cross-validated redundancies (Q^2) have been obtained by blindfolding procedure using omission distance 7. According to Chin and Newsted (1999), the omission distance should be between 5 and 10. The results of blindfolding procedures in SmartPLS 2.0 show that the Cross-validated redundancy of the endogenous construct that is represented in this study as the information technology innovativeness in the model equals 0.6957 which is moderately large. The models present an acceptable cross- validated redundancy values.

4.4.3.1.4 Effect Size (f^2)

Another assessment to be considered in structural model evaluation involves the effect size (f^2) of each relationship in the structure model, which allows researchers to evaluate the exogenous latent variable's incremental explanation of an endogenous latent variable. The effect size can be determined by calculating Cohen's f^2 (Chin, 2010; Cohen, 1988; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko

Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009). The f^2 is calculated by observing the change in R^2 when a specific latent construct is removed from the model In view of that, the researchers need to estimate R^2 for two PLS path models the first R^2 will be calculated for the original model as specified by the research framework, whereas the second R^2 will be calculated for the same model when a selected exogenous construct is removed from the model Accordingly, the effect size of the omitted construct can be determined using the formula provided below in Figure 4.5 According to the rule of thumb, f^2 with value of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively (Cohen, 1988).

$$f^2 = \frac{R^2 Included - R^2 Excluded}{(1 - R^2 Included)}$$

Figure 4.5: Formula for Effect Size (f^2) Calculation

The results given in Table 4.19 show two exogenous in the model have effect size (f^2) of more than the threshold value (0.02) including Management Support and IT Readiness. As they proved to have a significant path coefficient, Management Support and IT Readiness have relatively medium effect size on the information technology innovativeness model.

Table 4.19: The Exogenous Effect Size (f^2) on the Information Technology Innovativeness

Exogenous name	value
Management Support (MS)	0.311**
IT Readiness (ITR)	0.25**
Government Strategy (GS)	0.006*

*small effect size, ** medium effect size, * * * large effect size

The impact of all exogenous variables on the information technology innovativeness has relatively small effect. Yet, it is at acceptable level of Management Support was the most influencing on the information technology innovativeness in the sample.

4.4.3.2 The Interaction Effects

Moderation takes place when the effect of a predictor on a criterion varies depending on the level of a third variable called a moderator variable, which interacts with the independent variable in order to explain the dependent variable (Baron & Kenny, 1986; Edwards & Lambert, 2007). To incorporate interaction effect into path model, PLS requires the interaction term to be modeled as an additional latent variable called "interaction latent construct". Initiating such construct in PLS can be done by two approaches including product indicator approach and two-stage approach (Goodhue, Dale Lewis, William Thompson, & Ronald, 2007; Hair et al., 2011; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Hair Jr et al., 2015; Henseler et al., 2009). In product indicator approach, the interaction effect is modeled by creating a latent interaction construct in which its indicators are estimated by multiplying each predictor's indicator with each moderator's indicator (Chin, 2010; Goodhue et al., 2007; Hair Jr, Joe Sarstedt, Marko Hopkins, Luca Kuppelwieser, et al., 2014; Henseler et al., 2009).

In this study, the organizational culture has been proposed as moderator on all hypothesized relationships specified in the path model. As, interaction latent constructs related to organizational culture have been constructed using product indicators approach. Thus, this study has to create three interaction latent constructs, represent the interaction term between organizational culture and the all specified

relationships, With regard to the interaction effect of Organizational Culture, the interaction latent constructs of Management Support × Organizational Culture (MS × OC), IT Readiness × Organizational Culture (ITR × OC), Government Strategy × Organizational Culture (GS × OC), have been examined using bootstrapping procedure with 500 resample. All statistical tests were assessed at 5 % level of significance using one-tailed t-tests because Organizational Culture related hypotheses were unidirectional in nature, the result is presented in the Table 4.20. Two of the Organizational Culture related interaction constructs in the model have good path coefficient and also significant (p-value < 0.05), namely the interaction effect between Management Support and Organizational Culture with negative and significant interaction (β = -0.785, p-value < 0.05), and the interaction effect between IT Readiness and Organizational Culture have positive significant interaction ((β = 0.7241, p-value < 0.05). This is support H4 and H5.

Table 4.20: Interaction Path Coefficients and Significant Level at the Model.

Interaction Effect	β	T Statistics	p-value
Management Support × Organizational Culture	-0.785	5.667	0.00***
IT Readiness × Organizational Culture	0.7241	3.187	0.00***
Government Strategy × Organizational Culture	-0.1337	0.302	0.38

However, as presented in Table 4.17, the interaction terms between Government Strategy and Organizational Culture have a negative and insignificant (p > 0.05), indicating Organizational Culture does not have moderating effect on the role of Government Strategy on the government's information technology innovativeness. So, H6 have been rejected.

Figure 4.6 shows the interaction pattern using Aiken, West, and Reno (1991) procedure of computing slopes one standard deviation above and below the mean of

Organizational Culture. This technique is designed for the interpretation of the interaction effect of two continuous predictor variables. However, the proposed interaction effect between Government Strategy and Organizational Culture is rejected in the model. The path coefficient is insignificant (standardized p= -0.1337, P >0.5).

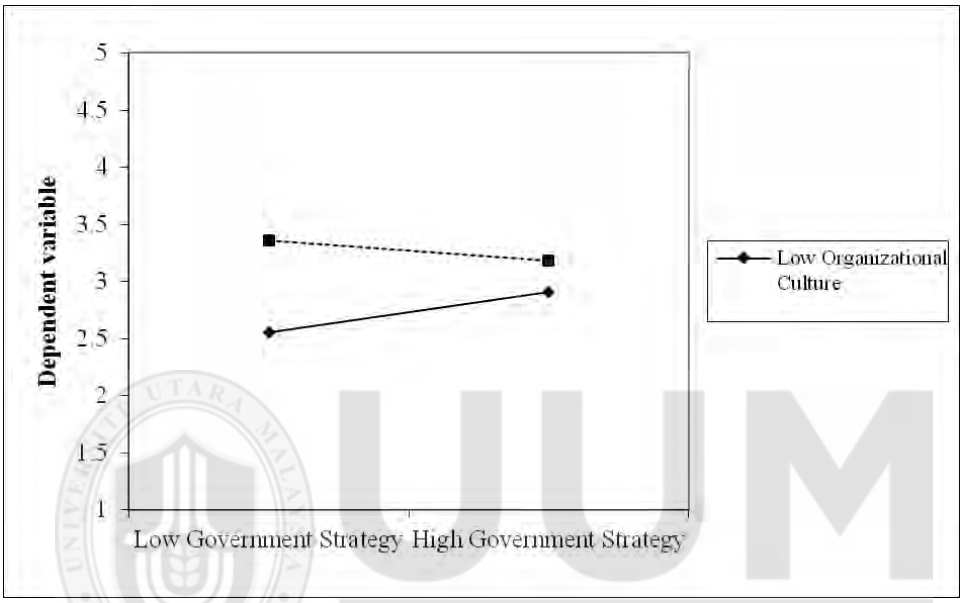

Figure 4.6: The Interaction Effect between Government Strategy (GS) and Organizational Culture (OC) in the Model.

Furthermore, the interaction term between Management Support and Organizational Culture in the model is negative and significant (standardized p= -0.785, p < 0.05), which supports H4, indicating that high level of organizational culture amplifies the negative relationship between Management Support and government's information technology innovativeness. Therefore, organizational culture has a negative moderating effect on the relationship between Management Support and government's information technology innovativeness. This suggests that the negative interaction effect is more likely to be observed in government confronting higher

levels of Organizational Culture. Again, this study plotted the interaction term by computing the slopes one standard deviation above and below the mean of Organizational Culture. Figure 4.7 indicates that the interaction pattern is consistent with H4; that is, Management Support is more effective on government's information technology innovativeness when Organizational Culture is high rather than low.

On the contrary, the interaction term between IT Readiness and Organizational Culture in the model is positive and significant (standardized p= 0.7241, P < 0.05), which also supports H5 in the model, indicating that high level of Organizational Culture diminishes the negative relationship between IT Readiness and f government's information technology innovativeness. Figure 4.8 indicates that the interaction pattern is consistent with H5; that is, IT Readiness is less effective on government's information technology innovativeness when Organizational Culture is high rather than low.

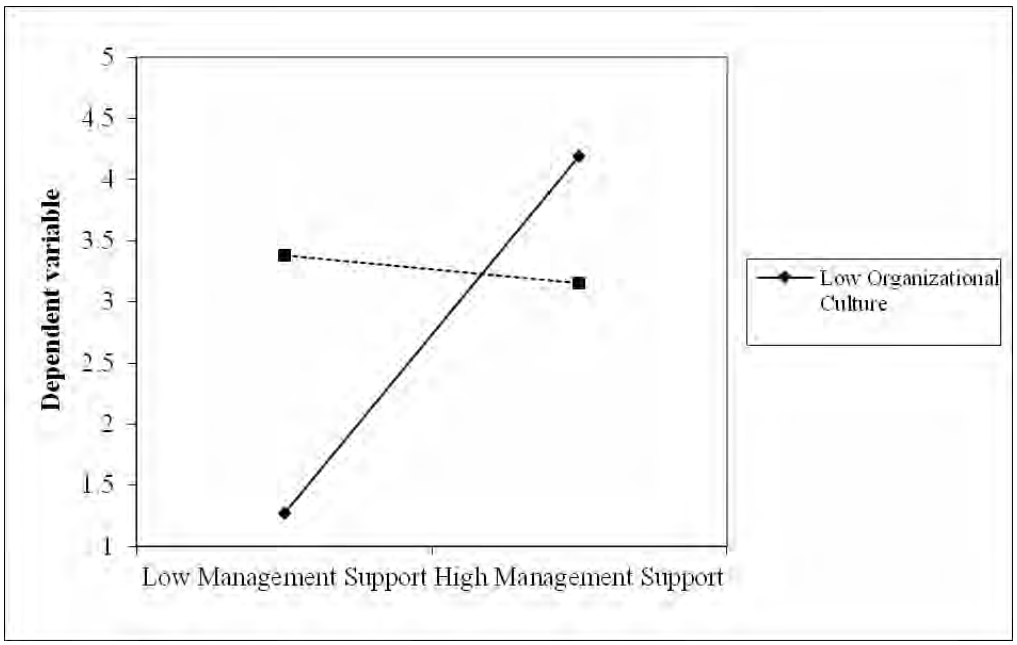

Figure 4.7: The Interaction Effect between Management Support (MS) and Organizational Culture (OC)

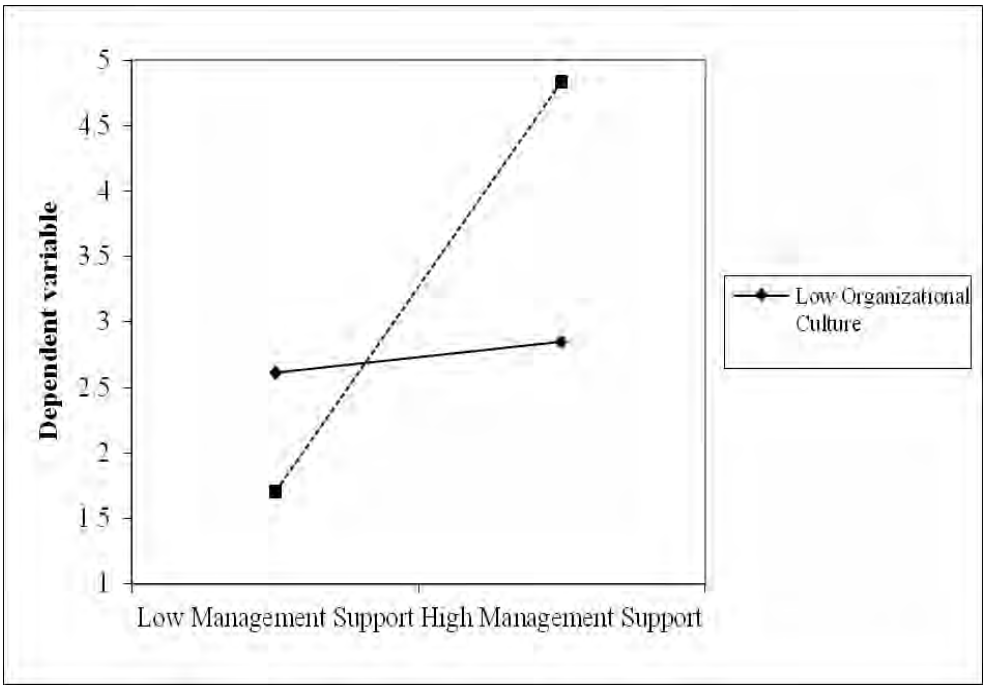

Figure 4.8: the Interaction Effect between IT Readiness (ITR) and Organizational Culture (OC).

4.4.3.2.1 The Effect Size of Interaction Effect

Testing interaction effects using PLS requires examination of the explanatory power of the model with and without moderators, To do so, Chin (2010) suggest comparing the R^2 of interaction model with the R^2 of the main effects model, The change in R^2 is used to assess the overall effect size f^2 for the interaction. According to the rule of thumb, f^2 value of 0.2, 0.15, and 0.35 have been suggested to be considered as small, moderate, and large effects, respectively (Cohen, 1988).

The effect size test is presented in Table 4.21, the interaction effect was found to have an effect size f^2 of 0.341, which represents a moderate effect. that, it can be concluded that the model in which organizational culture proposed to moderate the links between the organizational dimensions and the information technology

innovativeness possesses a significantly higher explanatory power than the main model.

Table 4.21
The Effect Size

R^2Included	R^2Excluded	**Effect size** (f^2)	**Effect size**
0.686	0.579	0.341	Medium

* $f^2 = [R^2$ (interaction effect model) - R^2 (main effect model)] / [1 - R^2 (main effect model]

4.4.3.3 Summary of Testing Hypotheses

Table 4.22 presents a summary of the results from the model. In the first step, the main effect has been tested separately without moderator. As indicated in the Table 4.19, the first hypothesis, that Management Support would directly increase the extent of the innovativeness in the field of information technology, this hypothesis (H1) was supported. The second hypothesis, that IT Readiness would directly increase the government information technology innovativeness, was supported in the sample. However, the third hypothesis, that the extent of government strategy directly decreases government information technology innovativeness, was not supported in the samples.

With regard to the moderation effect of organizational culture, the interaction model has been initiated. As shown in Table 4.23, the result has confirmed that two of the hypotheses has been supported which is H4 and H5 that organizational culture moderates the Management Support and IT Readiness organizational dimensions.

Table 4.22: Summary of Hypotheses Testing (Main Effects Model)

Hypothesis statement	Sign. (+/-)	sig	decision
Management Support (MS) influences government's information technology innovativeness positively	+	sig	supported
IT Readiness (ITR) influences government's information technology innovativeness positively	+	sig	supported
Government Strategy (GS) influences government's information technology innovativeness positively	-	Not sig	Not supported

Sig. significant, ns not significant, (+) positive relationship, (-) negative relationship

Table 4.23: Summary of Hypotheses Testing (Interaction Effects Model)

Hypothesis statement	Sign. (+/-)	sig	Decision
Organizational Culture moderates the relationship between Management support and government information technology innovativeness	-	sig	supported
Organizational Culture moderates the relationship between IT Readiness and government information technology innovativeness	+	sig	supported
Organizational Culture moderates the relationship between Government Strategy and government information technology innovativeness	-	Not sig	Not supported

Sig. significant, ns not significant, (+) positive relationship, (-) negative relationship

4.5 Summary of the Chapter

This chapter was designed to empirically achieve research objectives and to answer research questions. It starts by preparing the data for analysis. Descriptive analysis about the characteristics of the data follows next. The researcher then employed PLS approach to perform SEM. The measurement models have been examined to ensure the reliability and validity of the measurement model. Validity and reliability were satisfied with all the minimum requirements of the conventional rule of thumbs. Hypotheses testing have been tested and the findings confirm some of the theoretical expectations as predicted.

CHAPTER FIVE

DISCUSSIONS AND RESULT

CONCLUSION

5.1 Introduction

This chapter discusses the results of the data analysis presented in Chapter Four. Section 5.2 reviews the study, while section 5.3 discusses the fundamental findings from the testing of hypotheses that are designed to answer the research questions and objectives. Section 5.4 presents and discusses the implications of the study from managerial, practical and theoretical points of view. Lastly, the limitations of this study, ideas for future research and concluding remarks are presented in Sections 5.5 and 5.6 respectively.

5.2 Review of Study

The unsatisfactory level of information technology innovativeness has entailed a large volume of research to understand why, how and when adoption takes place. While this stream of research has increased our understanding by identifying several determinants of information technology innovativeness, empirical evidences regarding these determinants have been found to be inconsistent. In attempting to understand the conflicting conclusions regarding the impact of these determinants, this study proposes three related objectives, which are also reflected in two research questions: what are the influences of organizational factors on the government's information technology innovativeness from a managerial perspective, and does

organizational culture moderate the role of organizational factors in government information technology innovativeness from a managerial perspective?

Accordingly, the researcher has developed a theoretical framework grounded on RBV, contingency and DOI theories and partial use of the TOE framework. The variables involved in this study were grouped into organizational and relational factors. Management support, information technology readiness and government strategy are the organizational dimensions that reflect a government's ability to adopt and support information technology innovation. Organizational culture shows the context of the relationship in which the information technology innovation will be supported or will operate.

Since the research objective is to examine the proposed framework from a managerial perspective, the targeted population for this study covered the five managerial classifications in local government in the Gaza Strip. Due to consideration of political conflict and the scattered nature of the targeted respondents in the Gaza Strip, online questionnaires were distributed using Google Forms. The total response rate was 72 per cent.

All variables employed in this study have undergone a validity and reliability. The results show a satisfactory level of reliability and validity to perform further analysis. The researcher employed PLS-SEM to examine the specified relationship between the research variables and the moderation effects related to organizational culture. The results show that the effects of management support and IT readiness were supported while government strategy was not. With regard to the moderation effect

of organizational culture, the results show that organizational culture is supported in two of the three hypotheses. The next section discusses the results in more detail.

5.3 Findings Discussion

This study was undertaken to explore the organizational determinants of government information technology innovativeness from the managerial side as well as to explore the moderation effect of organizational culture on the specified relationships. The following subsections discuss each of the issues concerned.

5.3.1 The impact of management support

An examination of the role of management was a focus of the first research question. The researcher examined the role of management support from the managerial perspective. The results indicate that management support significantly and positively influences innovativeness in information technology in the government. In other words, more support from management ensures a strong tendency towards government information technology innovativeness. The result is consistent with DOI and TOE predictions, which suggest that to increase the innovativeness rate, strong management support is needed (Liang et al., 2007; Premkumar, Ramamurthy, & Nilakanta, 1994; Zheng et al., 2013).

The results of this study confirm that understanding by management of the importance of information technology innovativeness and the degree of their support and involvement in information technology innovativeness will increase the government's likelihood to innovate in the field of information technology.

Management usually has control over the most of resources in governments (i.e. technical, financial and human resources). It also ensures efficient allocation of the resources, which is necessary for smooth support of the information technology innovation. Moreover, strong management support reduces organizational resistance by creating cultural values that support innovation adoption. This study's results strongly confirm the findings of previous works (Ahmad et al., 2015; Damanpour & Schneider, 2009; Elenkov et al., 2005; Hameed et al., 2012; Quinn, 1987; Ramdani et al., 2013). This, therefore, implies that for Palestine Government to achieve high level of information technology innovativeness, there is need for a strong support of the management. Also, the culture of the organization and the workers can serve as a catalyst for management support in the actualization of information technology innovativeness.

5.3.2 The impact of government strategy

Along with the first research question, the impact of government strategy has been examined in this study. The empirical result did not support the presumed influence of government strategy on the intention to adopt an innovation in the field of information technology. That is, government strategy within the operating working environment of the local government in the Gaza Strip was not associated with an intention to adopt an innovation in the field of information technology. This finding is not in accordance with DOI and RBV predictions, which suggest that greater fit and consistency between the existing operating environment and information technology innovativeness increase the degree of achieving successful diffusion and adoption of the information technology innovativeness by way of reducing

modification and resistant effort (Rajaguru & Matanda, 2013; Rogers, 2003; Venkatesh & Bala, 2012; Wade & Hulland, 2004; Wu et al., 2010; Zheng et al., 2013). This prediction has received considerable support from empirical research (Cao et al., 2013; Rajaguru & Matanda, 2013; Wade & Hulland, 2004; Zheng et al., 2013).

A possible explanation could be derived from institutional theory to justify why government strategy has no significant influence on the intention to adopt an innovation in the field of information technology. Government strategy is defined as the complexity of the information technology in the organization strategy, such as considering the effects of information technology on an organization's work (Wang et al., 2012). This operational definition refers to operational strategy in governments, and was adopted in this study and often across innovation research (Hsing et al., 2013; Iveroth et al., 2013; Nawaser et al., 2014; Perrigot & Pénard, 2013). This definition needs to be kept in mind when interpreting and understanding the results of this study. However, institutional theory emphasizes the critical role of strategy in innovation within a social environment instead of operational strategy (Ansari et al., 2010; Son & Benbasat, 2007; Teo et al., 2003). It highlights that an innovation being operationally compatible with a potential adopter is not sufficient to ensure its adoption, particularly when it is not socially acceptable or compatible (Ansari et al., 2010) (Tornatzky & Klein, 1982; Van Slyke, Ilie, Lou, & Stafford, 2007). That is to say, when an innovation is highly complex and there is high uncertainty surrounding the innovation, as is the case with the information technology innovativeness strategies in the public sector, the potential adopter will be affected by social processes, norms and expectations to justify his adoption

behaviour (Angst, Agarwal, Sambamurthy, & Kelley, 2010; Ansari et al., 2010; Tornatzky & Klein, 1982). Consequently, the operational government strategy is inextricably bound up with the social affinity of innovation (Iveroth et al., 2013; Kshetri, 2010; Van Slyke et al., 2007).

Therefore, it can be concluded that since information technology innovativeness adoption in Palestine is not well institutionalized and is not widely adopted, the impact of government strategy is not highly significant.

5.3.1 The impact of information technology innovativeness

The first research question was also designed to examine the importance of information technology readiness in understanding government intentions regarding information technology innovativeness adoption. Information technology readiness was operationalized as a multidimensional concept that expresses a government's ability to adopt information technology innovativeness. Financial and non-financial measures were employed to determine the degree of government readiness to adopt information technology innovativeness. Information technology readiness was determined to have a significant effect on government intention to adopt information technology innovativeness, lending proof to support the proposed hypothesis. The present finding is in accordance with prior studies (Chwelos et al., 2001; Rai et al., 2009; Zhu et al., 2003; Zhu & Kraemer, 2005) which reported a positive link between information technology readiness and organizational intention to adopt information technology innovativeness. Those studies have concluded that information technology readiness, as manifested by non-financial measures and the availability of financial readiness, would speed up the innovation adoption process.

5.3.2 The moderating role of organizational culture

The final objective in this study, together with the corresponding question, is to examine the moderating role of organizational culture on all organizational factors. In this study, the researcher defines organizational culture as a situation. Organizational culture is defined by Seren and Baykal (2007) as comprising the assumptions, values, norms and customs of the organization and its members, and their interpersonal relationships affect their work and operating outcomes. This study will define organizational culture in terms of its effect on the relationship between management support, information technology readiness, government strategy and government information technology innovativeness in local government in the Gaza Strip. The researcher proposed two competing arguments regarding the moderating role of organizational culture. In the first view, it was suggested that organizational culture plays an amplifying role in organizational factors. This view was based on the idea that a high level of organizational culture entails certainty associated with the working environment in governmental institutions. The more certainty a governmental institution faces, the more information it needs to manage. As information technology innovativeness is an inter-organizational technology, it provides information processing capabilities that manage such uncertainty. Therefore, the organizational factors in the TOE as motivational variables, joined with the serious need to mitigate uncertainty in vital resources, encourages governmental institutions to adopt the information technology innovation.

In the second view, it was proposed that dependency plays a mitigating role in the effect of organizational TOE factors. This view was established based on the

reasoning of RBV, where a low organizational culture in governmental institutions has a low level of power to implement its desire. As the organizational TOE factors represent the drivers of the information technology innovativeness, governmental institutions with high adherence to organizational culture against the IT development are in a worse position to respond to those drivers due to the lack of power. Thus, high adherence mitigates the influence of organizational factors.

To examine the two competing views of organizational culture, the researcher created three interaction latent variables. Since the interaction effects were non-directional ones, the results are evaluated on a two-tailed test basis. With the exception of government strategy, the interaction effects were not significant. Meanwhile, two interaction effects were supported. The following paragraphs discuss these results.

The results support hypothesis H4, that increased levels of organizational culture will limit governmental institutions' response to an increased level of management support (negative influence). This result is in line with the second view of organizational culture. The findings suggest that governmental institutions with a high level of organizational culture in the relationship will have a low propensity to adopt innovativeness in the field of information technology, as they are not able to cope with management support. Indeed, with high levels of organizational culture, the governmental institution's autonomy to respond minimally to management support pressure in an effective way requires some level of freedom and flexibility in decision making. Therefore, it is likely that with a high level of organizational culture, management support pressure plays an insignificant role in motivating governmental institutions for information technology innovativeness.

Moreover, the results support the hypothesized interactive relationship between organizational culture and information technology innovativeness readiness. The finding indicates that a high level of organizational culture will increase the positive influence of information technology readiness on intention to adopt information technology innovativeness. This is consistent with the first view of organizational culture that is, as a high level of organizational culture increases the governmental institution's freedom of action and its managerial discretion, incorporating the innovation in the field of information technology into a governmental institution's activities would be easier to undertake. Greater degrees of organizational culture reduce the need to take other participants into account when making individual decisions (Alemeye & Getahun, 2015; Kuckertz & Breugst, 2009). Accordingly, the innovativeness efforts and difficulties would be decreased. This is manifested by the decreased need to establish and validate the mutual benefit to partners when making decisions and policies with potentially boundary-spanning impact. Moreover, increasing organizational culture leads to increased importance in managing issues of information exchange and mutual knowledge (Cramton, 2001).

In other words, the result that supports H5 is parallel to the reasoning of the first view of dependency that is, when a high level of organizational culture exists, IT readiness and resources have more influence on governmental institutions' tendency towards information technology innovativeness. This implies that IT readiness will not be conducive to information technology innovativeness unless there is a serious need for information technology innovativeness, such as uncertainties inherent in a high level of organizational culture. Therefore, a high level of IT readiness coupled with serious motivation (organizational culture) will create a perception that

governmental institution resources provide greater capacity to deal with the uncertainty inherent in organizational culture. For instance, it may be that a governmental institution has a great deal of IT financial and non-financial resources, but if these do not translate into a perception of efficacy, then the governmental institution is less likely to innovate in information technology. The result confirms that organizational culture creates a serious need to utilize governmental institution's resources in order to innovate in information technology.

However, the role of dependency as a moderator was not supported by the government strategy independent variable in this study. Neither the first view of organizational culture nor the second was able to describe the interaction effects between organizational culture and the government strategy independent variable.

Nevertheless, in order to answer these questions, the researcher develops an alternative view grounded on the findings of this study and the nature of the underlying independent variables. Initially, the researcher suggests that the competing views of organizational culture provide complementary views rather than exclusive. A closer look at the results of this study indicates that the low level of discretion (as suggested in the first view of organizational culture) is reflected in boosting the magnitude of management support for innovativeness rather than other variables. Given that management support is operationalized as the extent to which innovation is perceived as being difficult to understand and use, and it usually constitutes an inhibitor for innovation adoption, it would be more accurate to claim that management support captures the negative consequences of organizational culture. In a similar vein, while the response to management support requires more flexibility in decision-making, the negative consequences of organizational culture

could have an adverse effect by reducing the ability of governmental institutions to cope with pressure originating from the management. On the other hand, the uncertainty inherited in a high organizational culture (as suggested by the second view of organizational culture) provides the necessary justification and an interest in utilizing and mobilizing the governmental institution's resources and capability towards innovation in the field of information technology. IT readiness is not simply conducive to information technology innovativeness without a serious need to innovate.

By understanding the role of organizational culture as described above, it would be more accurate to claim that organizational culture only moderates management support and IT readiness, rather than government strategy. This claim is supported by the results of this study. It appears that the moderation role of organizational culture, whether amplifying or mitigating other relationships, is reliant on the nature of the independent variables themselves.

5.4 Implications of the Study

We believe this study contributes to a more in-depth understanding of the factors leading to the adoption of the information technology innovativeness in Gaza strip local government context. As described earlier, the Middle-Eastern region is a developing countries characterized by an increasing population and a significant economic influence that is expected to further grow in the near future. Due to the rising of public service and higher public governmental expectations in this part of the continent, the factors influencing information technology innovativeness should be determined in differing cultures.

Although there have been many studies in the past that determines to investigate the factors that leads towards the information technology innovativeness adoption, most of these studies are conducted in the developed economy. The following sections will discuss the implications of this study in terms of practical and theoretical standpoint.

5.4.1 Managerial and Practical Implications

The findings of the study highlighted several managerial implications. Initially, the results showed that governmental institutions in general are open to information technology innovativeness. However, to encourage the governmental institutions intention to adoption of the information technology innovativeness, management need to develop effective ways of spreading the information technology innovativeness in the governmental institutions daily Routine. For instance, Management and Policy makers promoting the adoption of new technology and actively considering the introduction of new technology to solve the governmental institutional problems and also, keep a technological leading edge by adapting new technology. This can be done by creating top management awareness or even convincing them of the information technology innovativeness values.

As the study empirically provided the evidence on desperately need of information technology in the governmental institutions, the managers could capitalize this need in implementing specific information technology innovativeness strategies. By having the right exposure and a clear positioning of what the information technology innovativeness offers, management are able to change their “habitual” behaviour by

aligning their authority and power to support the innovativeness in the field of information technology.

Based on the information technology readiness construct, it was obvious that the likelihood for the governmental institutions to adopt the information technology innovativeness increases when the information technology financial and nonfinancial readiness and support is available.

Therefore, one of the management and policy makers opportunities to increase the information technology innovativeness in the government by increasing the information technology financial and nonfinancial support.

In addition, Spread culture that support the new technology or innovation in the technology, particularly in the governmental institutions by spreading the realization of the important of the information technology innovativeness in the governmental work, and the public in general by increasing the awareness about the technology using the media for spreading this public technology awareness.

Finally, while information technology innovativeness advantages in solving the government's problems, providing the public services and facilitating governmental daily working routine. Therefore, it is pertinent that either an optimum number of the information technology innovativeness advantages are offered to increase efficiencies and develop effective ways of the governmental work.

5.4.2 Theoretical Implications

To begin with, based on our existing knowledge this study is one of the earliest attempts to investigate government intention for the information technology innovativeness across the governmental institutions in Gaza Strip. As we have

pointed out in the earlier chapter of this thesis, a majority of studies conducted previously where either focus on a specific industry or a specific technology in the business sector (Ahmad et al., 2015; Gangwar, Date, & Ramaswamy, 2015; Yang & Yun, 2013).

Notwithstanding huge paybacks of information technology innovativeness and the efforts to increase its adoption, information technology innovativeness is adopted at minimum level. It has also been reported that many organizations face numerous difficulties to adopt information technology innovativeness in reality and previous research in both information system and innovation channel have dealt primarily with the issue of what are the factors that motivate the adoption of information technology innovativeness. Prior research has identified a number of factors related to organization characteristics. With regard to this, two important limitations have not been addressed in the literature, namely; (1) up to the researcher knowledge, there were limited studies attempting to explain the information technology innovativeness in the public sector, (2) there is an underestimation to the role of relationship contextual factors and little consensus on how they should be incorporated into the innovation and adoption theories.

This study was designed to fill those important voids in information technology innovativeness adoption literature by distinguishing the information technology innovativeness and partially testing the TOE framework under the context of organizational culture. By distinguishing the partially, the objective was to deepen and differentiate our understanding of the determinants of information technology innovativeness diffusion. Meanwhile, partially testing of the TOE framework under the context of organizational culture was designed to capture the constraints and opportunities that may affect the meaning and occurrence of adoption behavior as

well as functional association between underlining variables. Hence, incorporating organizational culture as moderators into the TOE framework makes our understanding of the relationship between TOE organizational factors and adoption intention, more sensitive to the context of public sector.

The results of this study are consistent with the prediction of DOI theory, although not all covariates are significant. The findings of this study have shown that government strategy have less important perceive to drive the intention regarding information technology innovativeness adoption. The relatively low magnitude of R-square, suggests that there are other considerations taken by the governmental institutions when they want to adopt information technology innovativeness. This implies that such considerations could be the reasons behind the insignificant role of government strategy. In addition, since this study has followed quantitative approach, the researcher was not able to identify other considerations. Future research could conduct a qualitative research to have in-depth understanding of the information technology innovativeness adoption. The leading implication from this result is that there is a necessity to discriminate between the two sides in future work dealing with the diffusion of information technology innovativeness.

Furthermore, this study has integrated the causality of RBV with contingency and DOI theory. Specifically, this study investigated whether organizational culture would moderate the influence of organizational factors. The researcher has developed hypotheses to test the validity of the dependency as a moderator. The results partially confirm the contingency role of organizational culture. The result suggests that both points of views are working together rather than being mutually exclusive. Thus, the role of dependency could have negative and positive influence on the relevance of organizational factors. There are likely different situations

regarding the role of organizational culture, where its effect was contingent on the nature of independent variables. Organizational culture has positive effect by creating a serious need that encourages government to utilize their IT readiness and the support of the management in order to adopt information technology innovativeness. Meanwhile, it increases the degree of information technology innovativeness adoption financial and nonfinancial readiness and decreases government's ability to respond to management support pressure. This study represents an initial attempt to explore some of these preliminary dynamics, and emerges with some important introductory elements for further study. Information system researchers could rely on this finding when they argue about dependency.

A closer look at the explained variance (R-square), suggests that organizational culture boost the explained variance to be very strong. This finding suggests that governmental institutions is greatly affected by relationship characteristics. Thus, researchers should focus on the nature of relationship characteristics in order to develop theoretical frameworks to reduce the difficulties inherent in the adoption process of information technology innovativeness. This would also enhance our understanding regarding the underlining phenomena.

5.5 Limitations and Future Research

No research is without its limitations. Notwithstanding the implications of this study in understanding information technology innovativeness, a number of limitations are acknowledged. This section presents the major limitations of this study, which may also be fruitful for future research.

Firstly, this study has focused on only one relationship characteristic in the public sector, which is organizational culture. Literature identifies some other factors which may be considered for further testing. Future research could explore the effects of other relationship characteristics such as organizational commitment and sustainability. In addition, this study investigated only a limited number of organizational factors in government information technology innovativeness. Future research may consider other independent variables, as there is wide range of variables that can be investigated within this category (for details, see Figure 2.1). Moreover, this study has tested the research propositions with government information technology innovativeness. Future research should test the role of organizational culture on post-innovation adoption behaviour, as it may be more important at that stage.

Secondly, this research is conducted in the Local Governments in the Gaza strip because they are identified with unique characteristics and position in Palestine. There are other Local Government in Palestine that are not covered by this study. Future research, can therefore, explore other Local Governments in Palestine. This will give room for the comparison and/or validation of findings.

Thirdy, this study did not collect data on the role of partner readiness (like the private and NGO sectors) and how it affects innovation adoption behaviour. It is suggested that partner readiness may have a moderating role on the motivational variables. One could argue that when an organization or institution is motivated for information technology innovativeness, adoption of the technology innovation would be contingent on the readiness of its counterpart.

Fourthly, this study found that most of the innovation and adoption research relied on measuring organization intention, which is operationalized as willingness to innovate. Literature from other disciplines reveals that intention has been operationalized in different ways, such as behavioural expectation (Warshaw & Davis, 1985) and planning (Conner, Sandberg, McMillan, & Higgins, 2006). Future research can utilize all of these approaches to provide new measures for adoption intention. Such measurements would increase the accuracy of measuring the intention to innovate and thus produce results that are more accurate.

Fifthly, this study has used a quantitative approach to study the government intention for innovation in information technology, which limits our understanding regarding the rationale. In order to have an in-depth understanding, qualitative research could be adopted by future researchers to provide deeper insight.

Furthermore, the finding of this study is based on only the responses five categories of managers in the government ministries in the Gaza strip. Hence, the study is limited to the managers, thereby excluding other categories of workers. Replication of this study across specific classifications, including first and top classification, would also increase our understanding of the innovation issue. Moreover, the results were obtained based on a relatively small sample size. Using a relatively large sample size could help with the external validity and generalizability of the study.

Finally, this study followed the widest approaches to study the innovation adoption behaviour by identifying the influencing factors. Researchers can borrow insights from other literature. For instance, the contingencies suggested by Oliver (1991) can be utilized to understand innovation adoption in the information technology field

further. Oliver's framework suggests six types of contingency that motivate institutions to initiate inter-organization initiatives, namely necessity, asymmetry, reciprocity, efficiency, stability and legitimacy. These contingencies are interconnected and may overlap. The innovation literature on information technology does not appear to explore all the contingencies mentioned.

5.6 Concluding Remarks

In the contemporary society, the astronomical way by which information technology is growing gives much concern because it has effect on all facet of life. For individual, organization, and government at large to survive with this trend and withstanding the competitive environment, the adoption of information technology and innovativeness becomes imperative. Particularly, the effective and efficient delivery of government service now requires application of information technology innovativeness. This study, therefore, empirically examines the moderating effect of organization culture on the relationship between Management support, IT readiness, Government strategy, and the IT innovativeness.

With the proliferation of studies in recent years, a very large number of variables have been discussed in the literature to explain innovation adoption, resulting in a good deal of inconsistency in findings. In an effort to understand the conflicting conclusions regarding the impact of these variables, this study proposes the influence of a major organizational factor, which is the organizational culture.

With the aid of PLS-SEM, the finding of the study provides a statistical support for the relationship between Management support and government information technology innovativeness. In the same manner, it supports the relationship between IT Readiness and IT innovativeness. With moderating effect, the study found that organizational culture moderate the relation between the management support, IT readiness, and the IT innovativeness. The study contributes to the body of knowledge by extending literature to Palestine. The findings of the study have implications on theory and practice.

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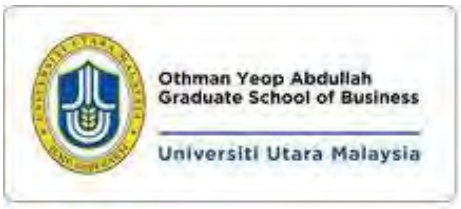
Appendix A

Research English, Online Arabic Questionnaire

Research Online link: http://goo.gl/forms/0D4hs53PyA6BuU1i1

English and Arabic Questionnaire:



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ACADEMIC RESEARCH QUESTIONNAIRE

Dear Sir / Madam,

I am a doctoral candidate at the above-named university, currently working on my PhD thesis titled "Management Support, Information Technology readiness, Government Strategy and Government's Information Technology Innovativeness in Palestine: The Moderating Effect of Organizational Culture". Thank you in advance for taking your valuable time to fill in this questionnaire. Please be assured that your responses will only be used for academic purposes; hence, your identity will never be known throughout any part of the research process.

Thank you very much for your support and participation.

FIRST: PERSONAL CHARACTERISTICS:

Age group:	
Less than 30 years old	30 – less than 40 years old
40 – less than 50 years old	More than 50 years old
Gender:	
Male	Female
Qualification:	

B.Sc.	Master
Ph.D.	Other: specify …….
Job Title:	
General Director (A4)	Deputy Director (A)
Unit managers (B)	Unit manager (C)
General Director (A3)	Other: specify …….
Years of Experience:	
Less than 5 years	5 – less than 10 years
10 – less than 15 years	More than 15 years
Years of experience in the current Job title:	
Less than 5 years	5 – less than 10 years
10 – less than 15 years	More than 15 years
Ministry: specify …….	

Please set an estimate answer from 1-7, 1 indicates a weakly disagree answer while 7 indicates a strongly agree answer.

SECOND: DEPENDENT VARIABLE

GOVERNMENT'S INFORMATION TECHNOLOGY INNOVATIVENESS:

Government's Information Technology Innovativeness can be defined as the notion of openness to new information technology ideas as an aspect of an organizational culture in the government.

NO	ITEM	1-7
1	The management in the government actively seeks innovative ideas for information technology.	
2	Information technology Innovation is readily accepted in this governmental instigation.	
3	Information technology Innovation in this governmental institution is perceived as too risky, and is resisted.	
4	Employees are penalized for new information technology ideas that do not work.	
5	The government readily accepts information technology innovations based on research results.	

THIRD: **INDEPENDENT VARIABLES**

I. **Management Support:** this field contains (4) items.
II. **Information technology readiness:** this field contains (5) items.
III. **Government strategy:** this field contains (5) items.

No.	Question	Answer
Management Support		
1	Management and Policy makers are interested in new technology and try to adapt to it.	
2	Management and Policy makers are actively considering the introduction of new technology to solve the governmental institutional problems.	
3	Management and Policy makers try to keep a technological leading edge by adapting new technology.	
4	Management and Policy makers tend to take risks in decision-making of new technology introduction.	
Information technology readiness		
1	The government is able to invest more in information technology.	
2	We are facing tighter information technology budget limitations than we did before.	
3	Governmental intuitions and employees that develops new information technology usage critical to the governmental success.	
4	The governmental working process continuously requires innovation in information technology.	
5	Government keeps abreast with information technological developments.	
Government Strategy		
1	Information technology effects have been considered in the strategies of the governmental institutions.	
2	The governmental institutions are able to consciously analyze the contribution of Information technology in enhancing the government effectiveness.	
3	The effects of information technology on realizing the strategy of the governmental working process are well understood.	
4	The alignment between business strategy and the strategy of the information technology has not been achieved.	

5	The government has set different priorities for information technology projects in the strategy of the governmental institutions technology.	

FOURTH: MODERATOR VARIABLE

ORGANIZATIONAL CULTURE

NO.	ITEM	1-7
1	The government understands the importance of information technology innovativeness for the success of the governmental institutions.	
2	In the governmental institutions, high levels of participation are expected in transferring information technology innovativeness.	
3	The governmental institutions are encouraged to explore and experiment their information technology	
4	In the governmental institutions, on-the-job technology learning is valued.	
5	The governmental institutions are valued for their individual and institutional information technology expertise.	
6	In the governmental institutions, employees are encouraged to ask others for assistance when needed.	
7	In my governmental institution the employees are encouraged to interact with other groups have more experiences in the field of information technology.	
8	In the governmental institutions, employees are encouraged to discuss their technology knowledge with people in other workgroups.	
9	In the governmental institutions, overall organizational vision is clearly stated.	
10	In the governmental institutions, overall organizational objectives are clearly stated.	
11	My institution shares its technology knowledge with other institutions (e.g. governmental,	
12	The benefits of information technology innovativeness outweigh the costs.	
13	The government senior management clearly attributes the institute's success to the information technology innovativeness.	

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سيدي العزيز،

السلام عليكم ورحمة الله وبركاته، وبعد.

أنا طالب الدكتوراه / أنس رياض مصباح ليدمس في الجامعة المذكورة أعلاه، أعمل حاليا على رسالة البحث الخاص بي والتي بعنوان: **"دعم الإدارة، والبنية التحتية لتكنولوجيا المعلومات، وسياسات تحفيز الحكومة وفعالية تكنولوجيا المعلومات لدى الحكومة في فلسطين، مع مراعاة تأثير ثقافة المؤسسات الحكومية"**

يسعدني أن أقدم لك الشكر للسماح لي باقتطاع بعض من وقتك لتعبئة هذه الاستبانة، مع العلم أن البيانات المعبأة في هذه الاستبانة لن تستخدم إلا لأغراض البحث العلمي، ولن يتم الإفصاح عن أي من هويتك الشخصية من خلال أي من جزئيات عملية البحث.

الشكر الجزيل لدعمك ومشاركتك.

أولا: البيانات الشخصية

الفئة العمرية	
أقل من 30 سنة	من 30 حتى 39 سنة
من 40 حتى 49 سنة	50 سنة فأكثر
النوع الاجتماعي	
ذكر	أنثى
المؤهل	
بكالوريوس	ماجستير
دكتوراه	غير ذلك، الرجاء التحديد: ....
المنصب	
مدير عام A4	نائب مدير عام A
مدير وحدة B	مدير وحدة C
غير ذلك، الرجاء التحديد:	إداري
سنوات الخبرة بشكل عام	
أقل من 5 سنوات	5 – 9 سنوات
10 – 14 سنة	15 سنة فأكثر
سنوات الخبرة في المنصب الحالي	
أقل من 5 سنوات	5 – 9 سنوات

10 – 14 سنة	15 سنة فأكثر
الوزارة:	

برجاء تحديد درجة تقييمك للبنود التالية من (1-7) بحيث 1 يعني بدرجة ضعيفة و 7 يعني بدرجة قوية.

المتغير التابع: الابداع في تكنولوجيا المعلومات لدى الحكومة

يمكن تعريف الابداع في تكنولوجيا المعلومات لدى الحكومة بأنها مفهوم منفتح على أفكار جديدة في تكنولوجيا المعلومات كثقافة متبناة من قبل المؤسسة الحكومية.

الرقم	البند	1-7
1	ارة في الحكومة تسعى بجدية لأفكار الابداعية في مجال تكنولوجيا المعلومات	
2	الحكومة تتقبل الابداع في تكنولوجيا المعلومات مرتكزة في ذلك على نتائج منهج البحث.	
3	يتم معاقبة الموظفين أصحاب الأفكار الابداعية في تكنولوجيا المعلومات والتي لم تحقق نجاحا.	
4	يتم التعامل في هذه المؤسسة الحكومية مع ثقافة الابداعية في تكنولوجيا المعلومات على أنها مخاطرة يجب الحد منها.	
5	ثقافة الابداعية في تكنولوجيا المعلومات هي ثقافة متقبلة في هذه المؤسسة الحكومية.	

ثانيا: المتغيرات المستقلة:

I. **الدعم الإداري**/دعم الإدارة: يحتوي هذا المحور على 4 بنود
II. **استثمارات في تكنولوجيا المعلومات**: يحتوي هذا المحور على 5 بنود.
III. **استراتيجية الحكومة**: يحتوي هذا المحور على 5 بنود.

الرقم	البند	1-7
دعم الإدارة		
1	ارة العليا وصناع القرار متفهمين في التكنولوجيا الحديثة ويحاولوا مواكبتها.	
2	ارة العليا وصناع القرار لديهم توجه إيجابي تجاه التكنولوجيا الحديثة التي تم تقديمها وذلك من أجل حل المشاكل في المؤسسات الحكومية.	
3	ارة العليا وصناع القرار يعملون على إبقاء المؤسسة في حالة تصدر في مواكبة التكنولوجيا.	
4	ارة العليا وصناع القرار يميلون للمخاطرة في اتخاذ القرارات المتعلقة بالتكنولوجيا الحديثة.	

	ا م في تكنولوجيا المعلومات	
	الحكومة لديها قدرة أكبر ستثمار في مجال التكنولوجيا المعلومات.	**1**
	نواجه تقليصات في الموازنات المخصصة لتطوير تكنولوجيا المعلومات في المؤسسة ا ن أكثر من السابق.	**2**
	تطوير المؤسسات الحكومية تكنولوجيا جيدة يعتبر أحد اهم عوامل نجاح الحكومة	**3**
	العمل الحكومي يتطلب ابداع الموظف في مجال التكنولوجيا المعلومات.	**4**
	تحافظ الحكومة على ابقاء على مواكبة التطور التكنولوجي.	**5**
	استراتيجية الحكومية	
	يتم مراعاة اهمية تكنولوجيا المعلومات في استراتيجيات الحكومية.	**1**
	المؤسسات الحكومية لديها القابلية للتحليل الواعي لمساهمة تكنولوجيا المعلومات في تطوير الاداء في الحكومة.	**2**
	تأثير تكنولوجيا المعلومات على إدراك ا تراتيجيات المتبعة في العملية التشغيلية للحكومة فهومة موضوح.	**3**
	يوجد توافق بين استراتيجية الحكومة واستراتيجية تكنولوجيا المعلومات.	**4**
	تقوم الحكومة بوضع أولويات مختلفة لمشاريع تكنولوجيا المعلومات في استراتيجيات المؤسسة الحكومية	**5**

رابعا: ثقافة المؤسسة

7-1	البند	الرقم
	تدرك الحكومة أهمية ا اع في تكنولوجيا المعلومات من أجل تحقيق النجاح في المؤسسات الحكومية.	**1**
	في المؤسسات الحكومية، مستويات عالية من المشاركة تكون متوقعة في عملية تطبيق ابداعي في تكنولوجيا المعلومات.	**2**
	يتم تشجيع المؤسسات الحكومية على اكتشاف وتجريب الخبرات في مجال تكنولوجيا المعلومات.	**3**
	يعطى التقدير وا خترام لعملية تعلم تكنولوجيا المعلومات من ل العمل في المؤسسات الحكومية.	**4**

	يتم تقدير وتقييم الخبرات الفردية والمؤسسية في مجال تكنولوجيا المعلومات في المؤسسات الحكومية.	**5**
	يتم تشجيع الموظفين على طلب المساعدة من الآخرين عند الحاجة إليه في المؤسسة الحكومية.	**6**
	في المؤسسة الحكومية التي أعمل فيها يتم تشجيع الموظفين على التفاعل مع مجموعات اخرى لديها خبرة أكبر في مجال تكنولوجيا المعلومات.	**7**
	يتم تشجيع الموظفين في المؤسسات الحكومية لمناقشة معرفتهم في مجال تكنولوجيا المعلومات مع أفراد من مجموعات أخرى.	**8**
	الرؤية العامة للمؤسسة الحكومية معرفة بشكل واضح ومفهوم.	**9**
	الأهداف العامة للمؤسسة الحكومية معرفة بشكل واضح ومفهوم.	**10**
	تقوم المؤسسة الحكومية التي أعمل فيها بالمشاركة المعرفة في مجال تكنولوجيا المعلومات مع مؤسسات أخرى حكومية وغير حكومية.	**11**
	الفائدة العائدة من ابداع في تكنولوجيا المعلومات تفوق تكلفتها.	**12**
	تعزو الإدارة العليا نجاح المؤسسة إلى الابداع في تكنولوجيا المعلومات.	**13**

- **Research Online link:** http://goo.gl/forms/0D4hs53PyA6BuU1i1

استبانة للبحث الأكاديمي

* Required

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الابداعية في تكنولوجيا المعلومات

سيدي العزيز، السلام عليكم ورحمة الله وبركاته تحية طيبة، وبعد.أنا طالب الدكتوراة / أنس رياض مصباح لبد من كلية الادارة في جامعة اوتارا الماليزية، أعمل حاليا على اطروحتي والتي بعنوان: "تاثير كل من دعم الإدارة والجاهزية لتكنولوجيا المعلومات و استراتيجية الحكومة على الابداعية في تكنولوجيا المعلومات لدى الحكومة في فلسطين، مع مراعاة تأثير ثقافة المؤسسة "يسعدني أن أقدم لكم الشكر للسماح لي باقتطاع بعض من وقتكم لتعبئة هذه الاستبانة، مع العلم أن البيانات المعبئة في هذه الاستبانة لن تستخدم إلا لأغراض البحث العلمي، ولن يتم الاستدلال على هويتكم الشخصية من خلال اي من جزئيات عملية البحث. الشكر الجزيل لدعمكم ومشاركتكم

أولا: البيانات الشخصية

الفئة العمرية *

- ◯ أقل من 30 سنة
- ◯ من 30 حتى 39 سنة
- ◯ من 40 حتى 49 سنة
- ◯ 50 سنة فأكثر

النوع الاجتماعي *

- ◯ ذكر
- ◯ أنثى

المؤهل *

- ◯ بكالوريوس
- ◯ ماجستير
- ◯ دكتوراة
- ◯ Other :

المنصب *

- مدير A3
- مدير A4
- مدير A
- مدير B
- مدير C
- Other :

سنوات الخبرة بشكل عام *

- أقل من 5 سنوات
- 5 – 9 سنوات
- 10 – 14 سنة
- 15 سنة فأكثر

سنوات الخبرة في المنصب الحالي *

- أقل من 5 سنوات
- 5 – 9 سنوات
- 10 – 14 سنة
- 15 سنة فأكثر

الوزارة *

- المالية
- مجلس الوزراء
- الشؤون الخارجية
- الداخلية
- العدل
- التخطيط والتنمية الإدارية
- الحكم المحلي
- التربية والتعليم العالي
- الصحة
- الاقتصاد الوطني
- العمل
- الشؤون الاجتماعية
- الاتصالات وتكنولوجيا المعلومات
- الأشغال العامة والإسكان
- النقل والمواصلات
- الأوقاف والشؤون الدينية
- الزراعة
- السياحة والآثار
- الثقافة
- شؤون المرأة
- الشباب والرياضة
- Other :

محاور الاستبانة

الرجاء تحديد درجة تقييمك للبنود التالية من (1-7) بحيث 1 يعني بدرجة ضعيفة و 7 يعني بدرجة قوية

ثانيا: المتغير التابع: الإبداعية في تكنولوجيا المعلومات لدى الحكومة

يمكن تعريف الإبداعية في تكنولوجيا المعلومات لدى الحكومة بأنها مفهوم الانفتاح على أفكار جديدة في تكنولوجيا المعلومات كثقافة متبناة من قبل المؤسسة الحكومية

الحكومة تسعى بجدية لتطبيق الأفكار الإبداعية في مجال تكنولوجيا المعلومات *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

الحكومة تتقبل الإبداع في تكنولوجيا المعلومات مرتكزة في ذلك على نتائج منهج البحث *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

يتم معاقبة الموظفين أصحاب الأفكار الإبداعية التي لم تحقق نجاحا في تكنولوجيا المعلومات *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

يتم التعامل في هذه المؤسسة الحكومية مع فكر الإبداع في تكنولوجيا المعلومات على أنها مخاطرة شديدة يجب الحد منها *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

ثقافة الإبداعية في تكنولوجيا المعلومات هي ثقافة متقبلة في هذه المؤسسة الحكومية *

1 2 3 4 5 6 7

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

ثالثاً: المتغيرات المستقلة

الدعم الإداري/دعم الإدارة: يحتوي هذا المحور على 4 بنود-
الاستثمار في تكنولوجيا المعلومات: يحتوي هذا المحور على 5 بنود-
إستراتيجية الحكومة: يحتوي هذا المحور على 5 بنود-

دعم الإدارة

درجة انفتاح وتقبل الادارة العليا للابداع في مجال تكنولوجيا المعلومات

الإدارة العليا وصناع القرار مهتمين في التكنولوجيا الحديثة ويحاولوا مواكبتها *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

الإدارة العليا وصناع القرار يهتموا بجدية بالتكنولوجيا الحديثة التي يتم تقديمها وذلك من أجل حل المشاكل في المؤسسات الحكومية *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

الإدارة العليا وصناع القرار يعملون على إبقاء المؤسسة في حالة متصدرة في مواكبة التكنولوجيا *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

الإدارة العليا وصناع القرار يميلون للمخاطرة في اتخاذ القرارات المتعلقة بالتكنولوجيا الحديثة *

1 2 3 4 5 6 7

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

الجاهزية لتكنولوجيا المعلومات

المساهمة المستمرة في كل من تطوير العمل الحكومي وتطوير استخدامات تكنولوجية جديدة والاستثمار في مواكبة التطورات التكنولوجية

الحكومة لديها قدرة أكبر للاستثمار في مجال تكنولوجيا المعلومات *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

نواجه تقليصات في الموازنات المخصصة لتطوير تكنولوجيا المعلومات في المؤسسة الآن أكثر من السابق *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

تطوير المؤسسات الحكومية لتكنلوجيا جديدة يعتبر احد اهم عوامل نجاح الحكومة *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

العمل الحكومي يتطلب الإبداع الدائم في مجال تكنولوجيا المعلومات *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

تحافظ الحكومة على الإبقاء على مواكبة التطور التكنولوجي *

1	2	3	4	5	6	7

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

الاستراتيجية الحكومية

درجة الاهتمام بالابداع في مجال تكنولوجيا المعلومات في الاستراتيجيات الحكومية

يتم مراعاة أهمية تكنولوجيا المعلومات في وضع الاستراتيجيات الحكومية *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

المؤسسات الحكومية لديها القابلية للتحليل الواعي لدرجة مساهمة تكنولوجيا المعلومات في تطوير الفاعلية في الحكومة *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

الاثار المتوقعة من تكنولوجيا المعلومات على إدراك الاستراتيجيات المتبعة في العمل الحكومي مفهومة بوضوح *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

لا يوجد توافق بين استراتيجية الحكومة واستراتيجية تكنولوجيا المعلومات *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

تقوم الحكومة بوضع أولويات مختلفة لمشاريع تكنولوجيا المعلومات في استراتيجيات المؤسسة الحكومية *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

رابعا: ثقافة المؤسسة

مجموعة من العادات والقيم والتقاليد للمؤسسات وافرادها, ومدى تاثير السلوك على العمل ومخرجاته

تدرك الحكومة أهمية الابداع في تكنولوجيا المعلومات من أجل تحقيق النجاح في المؤسسات الحكومية *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

في المؤسسات الحكومية، مستويات عالية من المشاركة تكون متوقعة في عملية تطبيق الإبداعية في تكنولوجيا المعلومات *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

يتم تشجيع المؤسسات الحكومية على اكتشاف وتجريب الخبرات في مجال تكنولوجيا المعلومات *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

يعطى التقدير والاحترام لعملية تعلم تكنولوجيا المعلومات من خلال العمل في المؤسسات الحكومية *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

يتم تقدير الخبرات الفردية والمؤسساتية في مجال تكنولوجيا المعلومات في المؤسسات الحكومية *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

يتم تشجيع الموظفين على طلب المساعدة من الآخرين عند الحاجة إليها في المؤسسة الحكومية *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

في المؤسسة الحكومية التي أعمل فيها يتم تشجيع الموظفين على التفاعل مع مجموعات اخرى لديها خبرة أكبر في مجال تكنولوجيا المعلومات *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

يتم تشجيع الموظفين في المؤسسات الحكومية على مناقشة معرفتهم في مجال تكنولوجيا المعلومات مع أفراد من مجموعات أخرى *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

الرؤية العامة للمؤسسة الحكومية معرفة بشكل واضح ومفهوم *

1	2	3	4	5	6	7

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

الأهداف العامة للمؤسسة الحكومية معرفة بشكل واضح ومفهوم *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

تقوم المؤسسة الحكومية التي أعمل فيها بمشاركة المعرفة في مجال تكنولوجيا المعلومات مع مؤسسات أخرى حكومية وغير حكومية *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

الفوائد العائدة من الإبداعية في تكنولوجيا المعلومات تفوق تكلفتها *

	1	2	3	4	5	6	7	
بدرجة كبرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

تعزو الإدارة العليا نجاح المؤسسة إلى الإبداعية في تكنولوجيا المعلومات *

	1	2	3	4	5	6	7	
بدرجة كبيرة جدا	○	○	○	○	○	○	○	بدرجة ضعيفة جدا

Appendix B

Distribution for managers at the local government in Gaza strip-Palestinian ministries regarding to Grade

No.	Ministry Name	A	A3	A4	B	C	total
1	Ministry of Education and Higher Education	10	2	10	22	30	74
2	Ministry of Health	19	4	6	94	65	188
3	Ministry of Religious Affairs	8	2	7	24	23	64
4	Ministry of Finance	2	1	12	52	17	84
5	Ministry of The Interior	7	3	3	51	15	79
6	Ministry of Social Affairs	4	2	1	9	10	26
7	Ministry of Agriculture	6		6	22	19	53
8	Ministry of Information Technology	4		3	11	11	29
9	Ministry of National Economy	6	1	4	14	18	43
10	Ministry of Labor	2	2	3	13	10	30
11	Ministry of Youth and Sport	3	3	2	6	5	19
12	Ministry of Transport and Communication	2	1	3	6	6	18
13	Ministry of Public Works and Housing	6	1	5	10	13	35
14	Ministry of The Government Affaires	27	4	17	15	36	99
15	Ministry of Justice	1	1	6	8	13	29
16	Ministry of Tourism and Antiquities	1			1	1	3

17	Ministry of Planning	3	1	2	1	4	11
18	Ministry of Culture	5		2	1	2	10
19	Ministry of Foreign Affairs	1	1	3	1	5	11
20	Ministry of Media	3		2	3	2	10
21	Ministry of Women's Affairs	3			2	2	7
	Total						**922**

Based on Statistical Office of the General Personnel Council 2016

Appendix C

Multivariate Outliers

id	MAH	id	MAH	id	MAH	id	MAH	id	MAH
1	21.23517	34	27.27447	67	24.69854	100	16.61388	133	21.02153
2	14.2686	35	18.08232	68	20.00751	101	29.44299	134	22.90071
3	55.00391	36	18.80172	69	32.82178	102	27.70571	135	23.56547
4	34.60587	37	32.94613	70	16.21342	103	24.03919	136	21.1049
5	46.57537	38	21.39518	71	14.93797	104	30.23003	137	17.91356
6	42.35498	39	30.42132	72	21.4171	105	22.80595	138	17.29574
7	26.1712	40	20.00856	73	28.10557	106	17.82013	139	23.37841
8	27.61934	41	22.55852	74	20.77251	107	19.2223	140	26.111
9	45.70035	42	26.44565	75	20.0091	108	22.02345	141	27.50957
10	43.60959	43	38.43259	76	13.04756	109	18.9144	142	18.89241
11	44.94923	44	34.55641	77	17.82226	110	24.81221	143	18.40548
12	37.78546	45	24.44596	78	26.70095	111	18.81832	144	22.3082
13	67.79866	46	27.24239	79	22.89598	112	25.04206	145	19.67593
14	33.24731	47	20.64549	80	23.36505	113	20.11225	146	23.3953
15	35.18949	48	43.97611	81	37.07817	114	14.81932	147	20.98967
16	21.8358	49	23.86161	82	19.94859	115	42.75185	148	23.03169
17	45.11697	50	27.89308	83	23.44063	116	33.58038	149	23.98675
18	29.71329	51	17.93647	84	24.99192	117	43.07144	150	24.07291
19	32.76377	52	22.98001	85	20.85721	118	27.30433	151	42.10987
20	24.39563	53	50.22476	86	19.88581	119	40.88226	152	28.28166
21	19.91443	54	37.50389	87	20.60735	120	50.41966	153	41.04686
22	34.85548	55	17.57347	88	31.93143	121	31.71528	154	49.81101
23	30.73424	56	22.09611	89	18.32437	122	56.4053	155	69.94542
24	25.28346	57	19.39225	90	21.47497	123	32.7564	156	31.06151
25	32.44919	58	12.25879	91	16.76455	124	32.6489	157	12.42782
26	17.51781	59	17.61825	92	17.32872	125	52.70571	158	52.03836
27	18.17933	60	17.86931	93	19.69822	126	103.9074	159	42.63673
28	15.36088	61	21.59045	94	13.22636	127	101.0887	160	23.03261
29	18.48283	62	15.53776	95	25.53308	128	67.10991	161	88.32722
30	18.83917	63	19.8968	96	17.59505	129	14.99457	162	43.44352
31	18.84896	64	18.78068	97	18.92031	130	33.3969	163	24.7034
32	20.41798	65	22.41543	98	20.34999	131	23.28819	164	22.44751
33	20.76227	66	28.29982	99	16.62193	132	20.5092	165	25.69435

id	MAH	id	MAH	id	MAH	id	MAH	id	MAH	id	MAH
166	15.52412	199	25.43041	232	17.00265	265	36.06167	298	36.54491	331	23.97498
167	26.15546	200	37.08004	233	24.81806	266	36.06167	299	26.05698	332	28.02743
168	18.48758	201	11.54488	234	23.28353	267	39.15257	300	35.28877	333	30.98423
169	19.37559	202	46.23701	235	34.52863	268	101.0617	301	24.03092	334	21.81629
170	14.72721	203	37.95426	236	50.01107	269	16.80538	302	44.33204	335	26.04826
171	16.8808	204	49.39658	237	23.9011	270	26.38033	303	66.64353	336	31.88024
172	26.8612	205	16.78193	238	34.4763	271	53.53452	304	21.14542	337	24.79931
173	20.28266	206	12.73759	239	16.50158	272	45.44205	305	41.70088	338	36.91715
174	15.75302	207	62.11207	240	20.644	273	39.46553	306	51.23934	339	58.47393
175	41.59171	208	28.08204	241	23.72124	274	52.8829	307	30.74866	340	15.30278
176	21.92917	209	29.79148	242	10.45036	275	169.8523	308	80.47961	341	26.63201
177	15.0734	210	42.82396	243	38.55697	276	56.75486	309	59.25435	342	22.13801
178	22.89987	211	18.75596	244	14.00817	277	24.20841	310	32.30849	343	46.57567
179	21.0575	212	26.44963	245	52.47353	278	17.77108	311	27.52845	344	49.38029
180	24.62972	213	21.37084	246	45.29507	279	53.59831	312	16.15684	345	48.92786
181	20.34601	214	10.34306	247	23.46765	280	13.01826	313	47.18655	346	106.1492
182	24.2727	215	79.34793	248	16.77303	281	30.47432	314	33.06219	347	34.56735
183	18.67652	216	45.14963	249	20.32447	282	23.26397	315	30.05933	348	103.622
184	22.52127	217	27.41545	250	17.33126	283	61.43191	316	34.09649	349	30.8752
185	21.55869	218	39.12502	251	21.66822	284	28.08096	317	69.49795	350	40.76834
186	19.84294	219	25.07294	252	16.09547	285	42.74278	318	42.94307	351	44.98165
187	29.77394	220	30.86513	253	19.79031	286	27.98425	319	64.76995	352	26.5428
188	21.44724	221	42.76408	254	20.75508	287	52.6291	320	33.45455	353	30.47137
189	21.22891	222	50.3066	255	53.96105	288	123.312	321	28.4149	354	43.36234
190	13.17221	223	7.86213	256	57.79602	289	36.37796	322	76.96639	355	27.00697
191	13.72342	224	15.01117	257	18.63626	290	44.218	323	34.83762	356	19.91174
192	16.41051	225	19.80449	258	42.42532	291	88.53719	324	22.61583	357	43.36234
193	33.94692	226	16.50714	259	18.90445	292	30.04809	325	37.50857	358	27.41123
194	39.98346	227	16.89637	260	66.50451	293	125.8269	326	31.75659	359	17.42949
195	16.57793	228	14.42213	261	31.59534	294	34.7165	327	30.44264	360	36.07856
196	35.02834	229	14.4358	262	37.49635	295	48.91825	328	17.25151	361	59.92515
197	32.88128	230	19.57017	263	16.66841	296	31.36847	329	57.04217		
198	40.80478	231	19.46917	264	36.06167	297	38.216	330	26.35453		

Appendix D

Z scores for items that have influencing values

id	ZITinnov4	ZITreadin3	ZITreadin4
1	-0.01126	1.17235	0.98317
2	-0.82405	-0.64404	0.07311
3	-2.44964	-1.55223	0.07311
4	0.80154	1.17235	0.98317
5	-3.26243	1.17235	0.98317
6	-4.07523	1.17235	0.98317
7	0.80154	0.26416	0.07311
8	0.80154	1.17235	0.98317
9	0.80154	-0.64404	0.07311
10	0.80154	1.17235	0.98317
11	0.80154	1.17235	0.98317
12	0.80154	1.17235	0.98317
13	0.80154	1.17235	0.98317
14	0.80154	-0.64404	-0.83696
15	0.80154	1.17235	0.98317
16	-0.01126	1.17235	0.98317
17	-0.01126	1.17235	0.98317
18	-0.01126	0.26416	0.98317
19	0.80154	1.17235	0.98317
20	0.80154	1.17235	0.98317
21	-0.01126	1.17235	0.98317
22	-0.01126	0.26416	0.07311
23	0.80154	0.26416	0.07311
24	0.80154	0.26416	0.07311
25	-0.01126	-0.64404	0.98317
26	-0.01126	-0.64404	-0.83696
27	-0.82405	0.26416	0.07311
28	-0.01126	0.26416	-0.83696
29	0.80154	-0.64404	0.07311
30	-0.01126	0.26416	0.98317
31	0.80154	0.26416	0.07311
32	0.80154	0.26416	-0.83696
33	-0.01126	0.26416	-0.83696

id	ZITinnov4	ZITreadin3	ZITreadin4
34	-0.01126	0.26416	0.07311
35	-0.01126	-0.64404	0.07311
36	0.80154	-0.64404	0.07311
37	-0.01126	-1.55223	-0.83696
38	0.80154	0.26416	0.98317
39	0.80154	0.26416	-0.83696
40	0.80154	-0.64404	-0.83696
41	-0.01126	-0.64404	-1.74702
42	0.80154	0.26416	0.98317
43	-0.01126	1.17235	0.98317
44	0.80154	-0.64404	0.07311
45	0.80154	0.26416	0.07311
46	-0.01126	0.26416	-0.83696
47	-0.01126	0.26416	-0.83696
48	-0.01126	0.26416	-4.47721
49	-0.01126	0.26416	-0.83696
50	0.80154	-0.64404	0.07311
51	0.80154	0.26416	0.07311
52	0.80154	-1.55223	0.07311
53	-4.07523	0.26416	-0.83696
54	-3.26243	0.26416	-0.83696
55	0.80154	-1.55223	-0.83696
56	0.80154	0.26416	-0.83696
57	-0.01126	0.26416	-0.83696
58	0.80154	-0.64404	-0.83696
59	0.80154	0.26416	0.07311
60	-0.01126	-0.64404	-0.83696
61	-0.01126	1.17235	-0.83696
62	0.80154	0.26416	0.07311
63	-0.01126	0.26416	-0.83696
64	0.80154	-0.64404	0.07311
65	-0.01126	-1.55223	-0.83696
66	0.80154	-1.55223	-0.83696

id	ZITinnov4	ZITreadin3	ZITreadin4
67	-0.01126	-0.64404	0.07311
68	0.80154	-0.64404	0.07311
69	-4.07523	0.26416	-0.83696
70	0.80154	0.26416	-0.83696
71	-0.01126	0.26416	-0.83696
72	-0.01126	-1.55223	-0.83696
73	0.80154	0.26416	-0.83696
74	-1.63685	-1.55223	-0.83696
75	0.80154	-0.64404	-1.74702
76	-0.01126	0.26416	-0.83696
77	-0.01126	0.26416	-0.83696
78	-0.01126	-1.55223	-0.83696
79	-0.01126	-1.55223	-0.83696
80	-0.01126	-0.64404	0.07311
81	0.80154	0.26416	-0.83696
82	-0.01126	-1.55223	-1.74702
83	0.80154	-0.64404	-0.83696
84	0.80154	-1.55223	-0.83696
85	0.80154	0.26416	-0.83696
86	0.80154	-0.64404	0.07311
87	0.80154	-0.64404	-0.83696
88	0.80154	-1.55223	-0.83696
89	0.80154	-0.64404	-0.83696
90	-0.01126	-0.64404	-1.74702
91	-0.01126	-0.64404	-1.74702
92	-0.01126	-0.64404	-0.83696
93	0.80154	0.26416	0.07311
94	-0.01126	0.26416	0.07311
95	-0.01126	0.26416	-0.83696
96	0.80154	0.26416	0.07311
97	-0.01126	-0.64404	0.07311
98	-0.82405	0.26416	-0.83696
99	-0.01126	-0.64404	-0.83696

id	ZITinnov4	ZITreadin3	ZITreadin4
100	0.80154	-0.64404	-0.83696
101	-0.01126	-1.55223	-0.83696
102	-0.01126	-0.64404	-0.83696
103	0.80154	-1.55223	0.07311
104	0.80154	0.26416	-0.83696
105	-1.63685	0.26416	0.07311
106	-0.01126	-0.64404	0.07311
107	0.80154	-1.55223	-0.83696
108	-0.01126	-0.64404	-0.83696
109	0.80154	-0.64404	-0.83696
110	0.80154	-0.64404	-0.83696
111	-0.01126	1.17235	0.98317
112	-0.82405	-1.55223	-0.83696
113	0.80154	-0.64404	-1.74702
114	0.80154	0.26416	0.98317
115	-0.01126	1.17235	0.98317
116	0.80154	-0.64404	0.98317
117	-0.01126	1.17235	0.98317
118	-0.01126	0.26416	0.07311
119	-0.01126	-0.64404	0.07311
120	0.80154	1.17235	0.98317
121	0.80154	-0.64404	-0.83696
122	0.80154	-1.55223	-0.83696
123	-0.01126	0.26416	0.07311
124	-1.63685	-0.64404	-0.83696
125	-0.82405	0.26416	0.07311
126	0.80154	-3.36862	0.98317
127	0.80154	1.17235	0.98317
128	-0.01126	0.26416	0.98317
129	-1.63685	0.26416	-0.83696
130	-0.01126	-0.64404	0.07311
131	0.80154	1.17235	0.07311
132	0.80154	0.26416	-0.83696

id	ZITinnov4	ZITreadin3	ZITreadin4
133	0.80154	1.17235	0.07311
134	-0.01126	1.17235	0.07311
135	0.80154	1.17235	0.07311
136	0.80154	0.26416	-0.83696
137	0.80154	0.26416	0.07311
138	0.80154	0.26416	0.07311
139	-0.01126	0.26416	0.07311
140	0.80154	0.26416	0.07311
141	0.80154	-0.64404	0.07311
142	0.80154	0.26416	0.07311
143	0.80154	0.26416	-0.83696
144	-0.01126	0.26416	-0.83696
145	-0.01126	0.26416	0.07311
146	-0.82405	0.26416	-0.83696
147	0.80154	1.17235	0.98317
148	-0.01126	-1.55223	0.07311
149	0.80154	-0.64404	-0.83696
150	-0.01126	0.26416	0.07311
151	0.80154	0.26416	0.98317
152	0.80154	0.26416	0.07311
153	0.80154	-0.64404	0.07311
154	-0.01126	-0.64404	0.07311
155	0.80154	1.17235	0.07311
156	-0.01126	-0.64404	-0.83696
157	0.80154	-0.64404	0.07311
158	0.80154	-0.64404	0.07311
159	0.80154	-0.64404	0.07311
160	-0.82405	0.26416	0.07311
161	-0.82405	0.26416	0.07311
162	-0.01126	1.17235	0.98317
163	-0.82405	0.26416	0.98317
164	-0.01126	1.17235	0.98317
165	-0.01126	1.17235	0.98317

id	ZITinnov4	ZITreadin3	ZITreadin4
166	-0.01126	1.17235	0.98317
167	-0.01126	1.17235	0.98317
168	0.80154	1.17235	0.98317
169	-0.01126	1.17235	0.98317
170	-0.01126	1.17235	0.98317
171	-0.01126	1.17235	0.98317
172	-0.01126	0.26416	0.98317
173	-0.01126	1.17235	0.98317
174	-0.01126	0.26416	0.98317
175	-0.01126	-0.64404	0.07311
176	0.80154	1.17235	0.98317
177	-0.01126	0.26416	0.98317
178	0.80154	1.17235	0.98317
179	-0.01126	-0.64404	0.98317
180	-0.01126	0.26416	0.98317
181	-0.01126	0.26416	0.98317
182	0.80154	0.26416	0.98317
183	-0.01126	0.26416	0.98317
184	-0.01126	1.17235	0.98317
185	-0.01126	0.26416	0.07311
186	-0.01126	1.17235	0.98317
187	-0.01126	0.26416	0.98317
188	-0.01126	1.17235	0.98317
189	-0.01126	1.17235	0.98317
190	0.80154	1.17235	0.98317
191	-0.01126	1.17235	0.98317
192	-0.82405	1.17235	0.98317
193	-1.63685	0.26416	0.98317
194	-0.01126	0.26416	0.07311
195	-0.82405	0.26416	-0.83696
196	-0.82405	0.26416	0.07311
197	-0.01126	0.26416	0.98317
198	0.80154	-1.55223	0.98317

id	ZITinnov4	ZITreadin3	ZITreadin4
199	0.80154	1.17235	0.98317
200	-0.01126	0.26416	0.98317
201	-0.01126	-0.64404	0.07311
202	-0.01126	-0.64404	0.98317
203	-0.01126	0.26416	0.98317
204	-1.63685	1.17235	0.98317
205	-0.01126	-0.64404	-0.83696
206	-0.82405	0.26416	0.07311
207	-4.07523	1.17235	-0.83696
208	-0.82405	0.26416	0.98317
209	-1.63685	-0.64404	0.98317
210	0.80154	-1.55223	-1.74702
211	-0.01126	1.17235	0.98317
212	0.80154	1.17235	0.98317
213	-0.01126	0.26416	0.98317
214	0.80154	-0.64404	-0.83696
215	-0.01126	1.17235	0.98317
216	-0.01126	-1.55223	-2.65708
217	0.80154	1.17235	0.98317
218	0.80154	-0.64404	-1.74702
219	-0.01126	0.26416	0.07311
220	0.80154	0.26416	0.98317
221	-0.01126	1.17235	0.98317
222	-0.82405	1.17235	0.98317
223	-1.63685	-0.64404	-0.83696
224	-0.82405	0.26416	0.98317
225	-0.01126	-1.55223	-0.83696
226	-0.01126	-1.55223	-0.83696
227	-0.01126	0.26416	0.07311
228	-0.01126	0.26416	0.07311
229	-0.01126	1.17235	0.98317
230	-0.82405	0.26416	0.98317
231	-0.01126	0.26416	0.98317

id	ZITinnov4	ZITreadin3	ZITreadin4
232	-0.01126	0.26416	0.98317
233	-1.63685	0.26416	0.98317
234	0.80154	0.26416	0.07311
235	-0.01126	-0.64404	0.98317
236	0.80154	-1.55223	0.07311
237	0.80154	0.26416	0.98317
238	-0.82405	0.26416	0.98317
239	0.80154	0.26416	0.98317
240	-0.01126	1.17235	0.98317
241	0.80154	0.26416	-0.83696
242	-0.82405	0.26416	0.07311
243	0.80154	1.17235	0.98317
244	0.80154	1.17235	0.07311
245	-1.63685	-2.46043	0.98317
246	0.80154	-0.64404	-0.83696
247	-2.44964	0.26416	0.98317
248	-0.01126	0.26416	0.98317
249	0.80154	1.17235	0.98317
250	-0.01126	1.17235	0.98317
251	0.80154	1.17235	0.98317
252	0.80154	1.17235	0.98317
253	-0.01126	1.17235	0.98317
254	0.80154	0.26416	0.98317
255	-0.01126	-2.46043	-0.83696
256	0.80154	1.17235	0.98317
257	-0.01126	1.17235	0.98317
258	-0.01126	-3.36862	0.98317
259	-0.01126	1.17235	0.07311
260	0.80154	1.17235	-1.74702
261	0.80154	1.17235	0.98317
262	0.80154	0.26416	0.98317
263	0.80154	1.17235	0.98317
264	-0.01126	1.17235	0.07311

id	ZITinnov4	ZITreadin3	ZITreadin4
265	-0.01126	1.17235	0.07311
266	-0.01126	1.17235	0.07311
267	-0.82405	-0.64404	-0.83696
268	-0.01126	0.26416	-3.56714
269	-0.82405	1.17235	0.98317
270	0.80154	0.26416	0.07311
271	0.80154	-0.64404	0.07311
272	-0.01126	-0.64404	0.98317
273	-0.01126	-2.46043	-0.83696
274	-1.63685	-2.46043	-1.74702
275	0.80154	-4.27682	0.98317
276	0.80154	0.26416	0.07311
277	-0.01126	-0.64404	0.07311
278	-0.82405	-0.64404	0.07311
279	0.80154	-0.64404	0.98317
280	0.80154	0.26416	0.07311
281	-0.82405	-1.55223	-1.74702
282	-0.82405	0.26416	0.98317
283	0.80154	-0.64404	0.98317
284	-0.82405	0.26416	0.98317
285	-0.82405	0.26416	0.07311
286	-2.44964	1.17235	0.98317
287	-0.82405	0.26416	0.98317
288	0.80154	1.17235	0.98317
289	-1.63685	0.26416	0.07311
290	0.80154	-2.46043	0.07311
291	0.80154	1.17235	0.98317
292	-3.26243	0.26416	-0.83696
293	-1.63685	-3.36862	-3.56714
294	-2.44964	-1.55223	-1.74702
295	0.80154	-0.64404	-0.83696
296	-0.82405	-2.46043	-1.74702
297	-0.01126	0.26416	-0.83696

id	ZITinnov4	ZITreadin3	ZITreadin4
298	-0.01126	0.26416	0.07311
299	-0.01126	0.26416	-0.83696
300	-1.63685	1.17235	0.98317
301	-0.01126	1.17235	0.07311
302	-1.63685	1.17235	0.98317
303	-4.07523	1.17235	0.98317
304	-0.01126	-0.64404	0.98317
305	0.80154	-2.46043	-1.74702
306	0.80154	1.17235	0.98317
307	-0.01126	-0.64404	-1.74702
308	-0.01126	1.17235	-2.65708
309	-2.44964	-0.64404	0.07311
310	0.80154	0.26416	0.07311
311	0.80154	1.17235	0.98317
312	-0.01126	0.26416	-0.83696
313	0.80154	0.26416	-0.83696
314	-0.82405	-0.64404	0.07311
315	-0.01126	0.26416	0.07311
316	-0.01126	0.26416	0.07311
317	0.80154	1.17235	0.98317
318	-1.63685	-0.64404	0.07311
319	0.80154	0.26416	-0.83696
320	-0.01126	0.26416	0.98317
321	0.80154	0.26416	0.07311
322	-0.01126	0.26416	0.07311
323	0.80154	-0.64404	0.98317
324	-0.01126	-2.46043	-1.74702
325	-2.44964	0.26416	0.07311
326	0.80154	0.26416	0.07311
327	-0.01126	-2.46043	-0.83696
328	-2.44964	-0.64404	0.07311
329	-0.01126	1.17235	0.98317
330	-1.63685	0.26416	0.07311

id	ZITinnov4	ZITreadin3	ZITreadin4
331	-0.01126	-0.64404	-0.83696
332	-0.82405	0.26416	-2.65708
333	-0.01126	0.26416	0.07311
334	-0.82405	-0.64404	0.07311
335	-2.44964	0.26416	0.07311
336	-3.26243	0.26416	-0.83696
337	0.80154	-0.64404	0.98317
338	0.80154	-0.64404	-0.83696
339	0.80154	0.26416	0.07311
340	-0.82405	0.26416	0.98317
341	-1.63685	-0.64404	-1.74702
342	0.80154	1.17235	0.98317
343	0.80154	-1.55223	0.98317
344	-0.01126	-1.55223	-2.65708
345	0.80154	0.26416	0.07311
346	-4.07523	-0.64404	-2.65708
347	-0.82405	-0.64404	0.98317
348	-0.82405	0.26416	0.98317
349	-0.01126	0.26416	-0.83696
350	-1.63685	-0.64404	0.07311
351	0.80154	-3.36862	-3.56714
352	0.80154	0.26416	-0.83696
353	0.80154	0.26416	0.07311
354	0.80154	-1.55223	-1.74702
355	0.80154	0.26416	0.98317
356	-0.01126	-0.64404	-1.74702
357	0.80154	-1.55223	-1.74702
358	-0.82405	0.26416	0.07311
359	0.80154	0.26416	0.07311
360	0.80154	1.17235	0.98317
361	0.80154	-0.64404	-3.56714

Appendix E

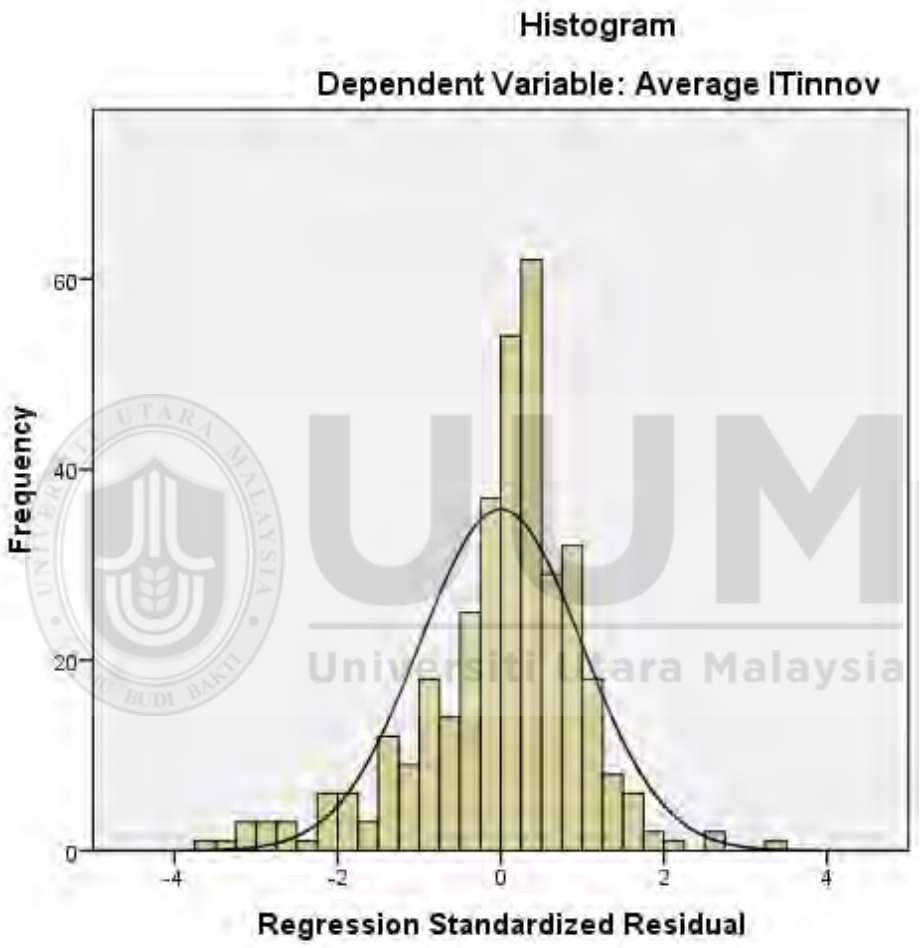
Skewness and kurtosis test

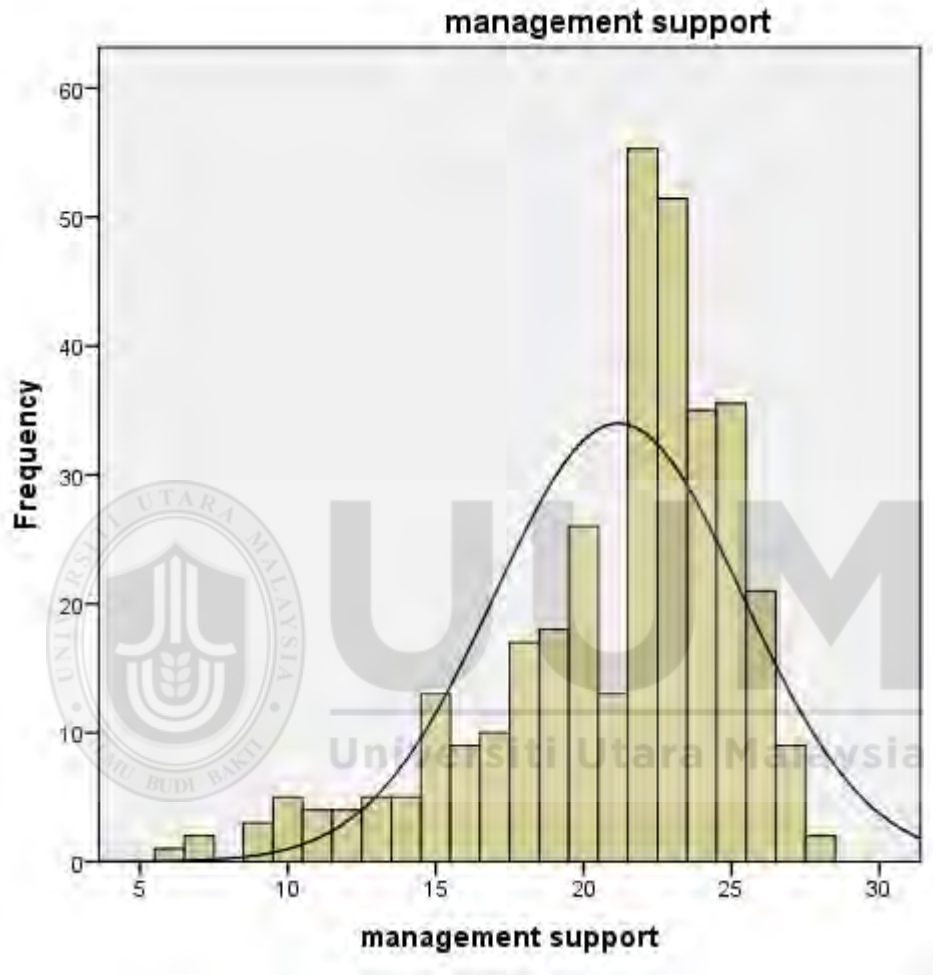
Descriptive Statistics

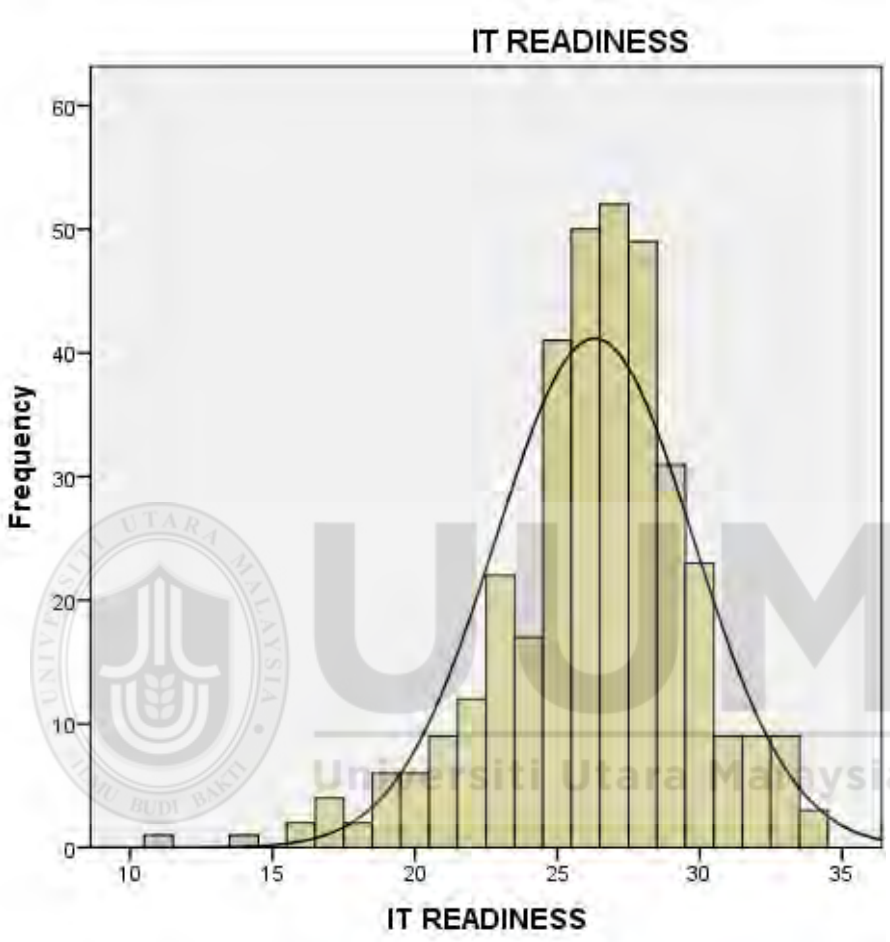
	N	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
IT Innovativeness	358	29.03	-.831	.129	-.050	.257
management support	358	21.18	-1.172	.129	1.127	.257
IT READINESS	358	26.31	-.714	.129	1.490	.257
government strategy	358	24.63	-.111	.129	-.063	.257
organizational culture	358	70.04	-1.048	.129	.541	.257
Valid N (listwise)	358					

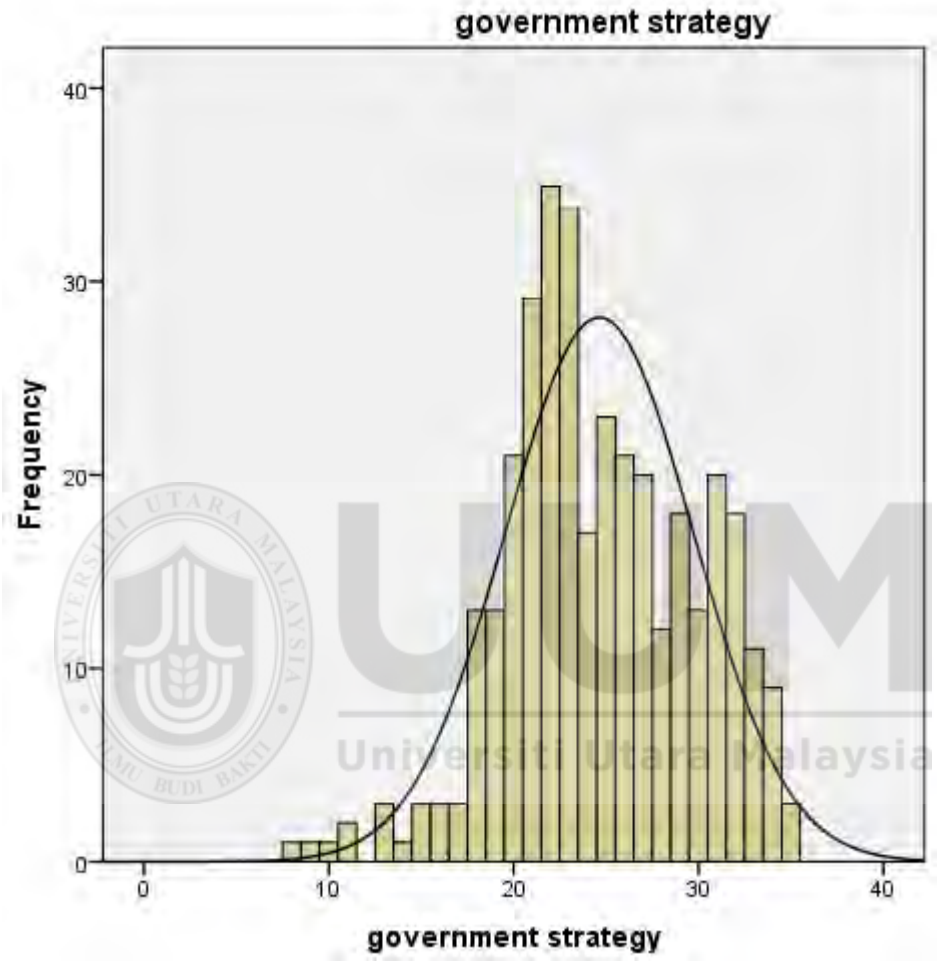
Appendix F

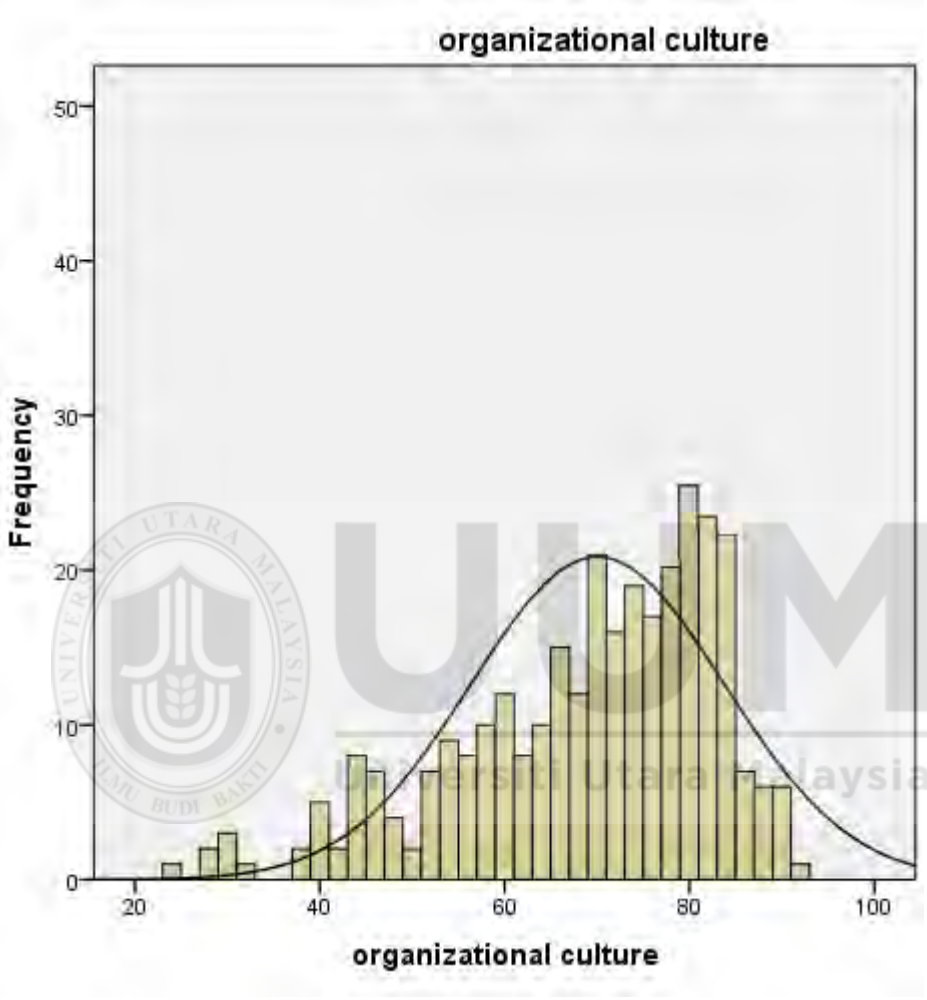
Frequency histograms





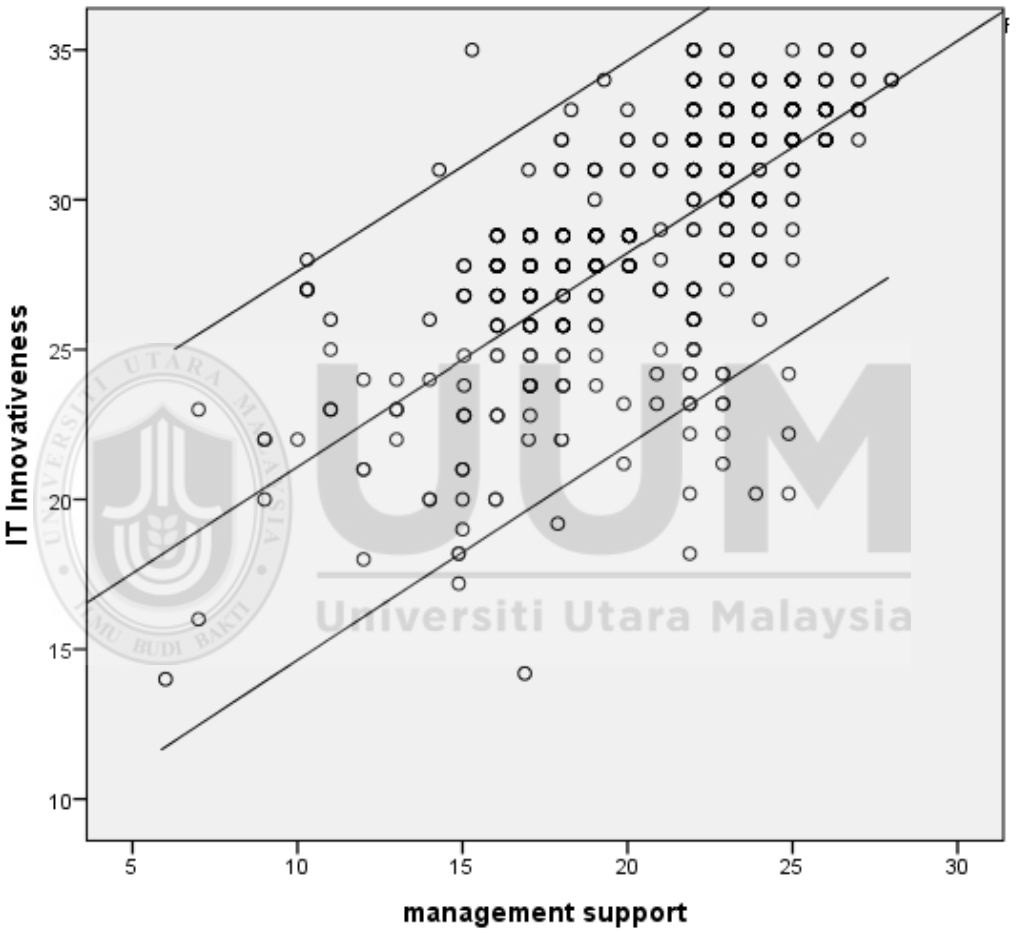


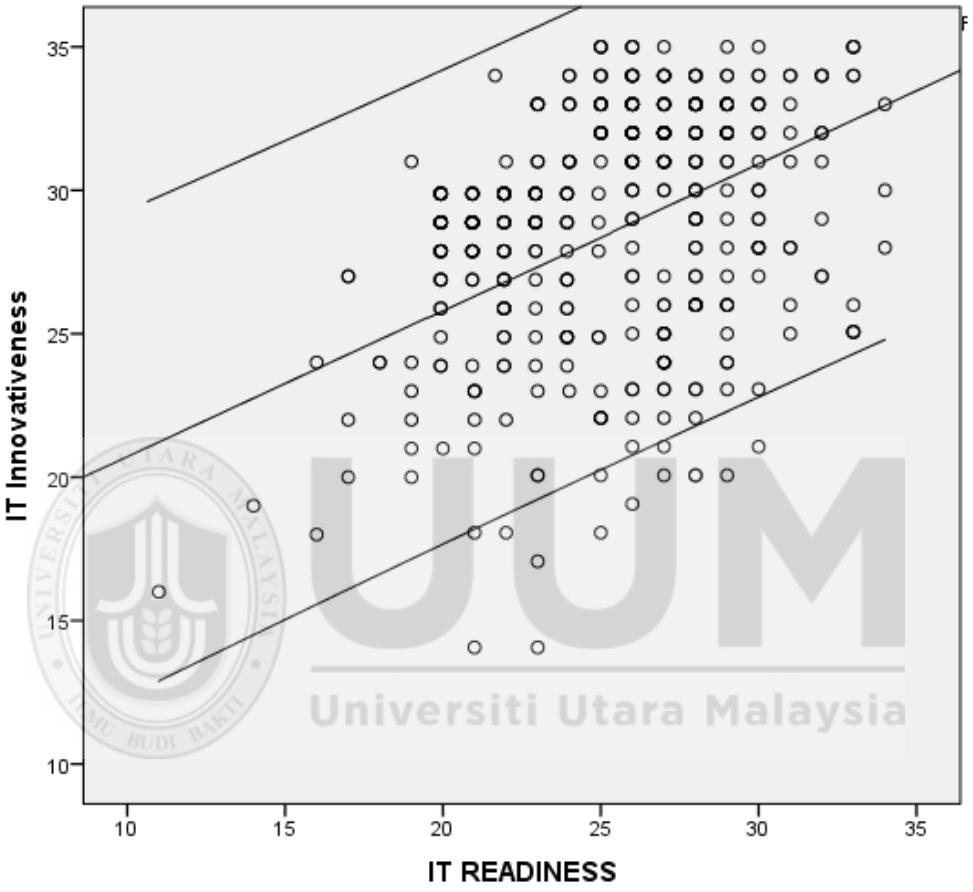


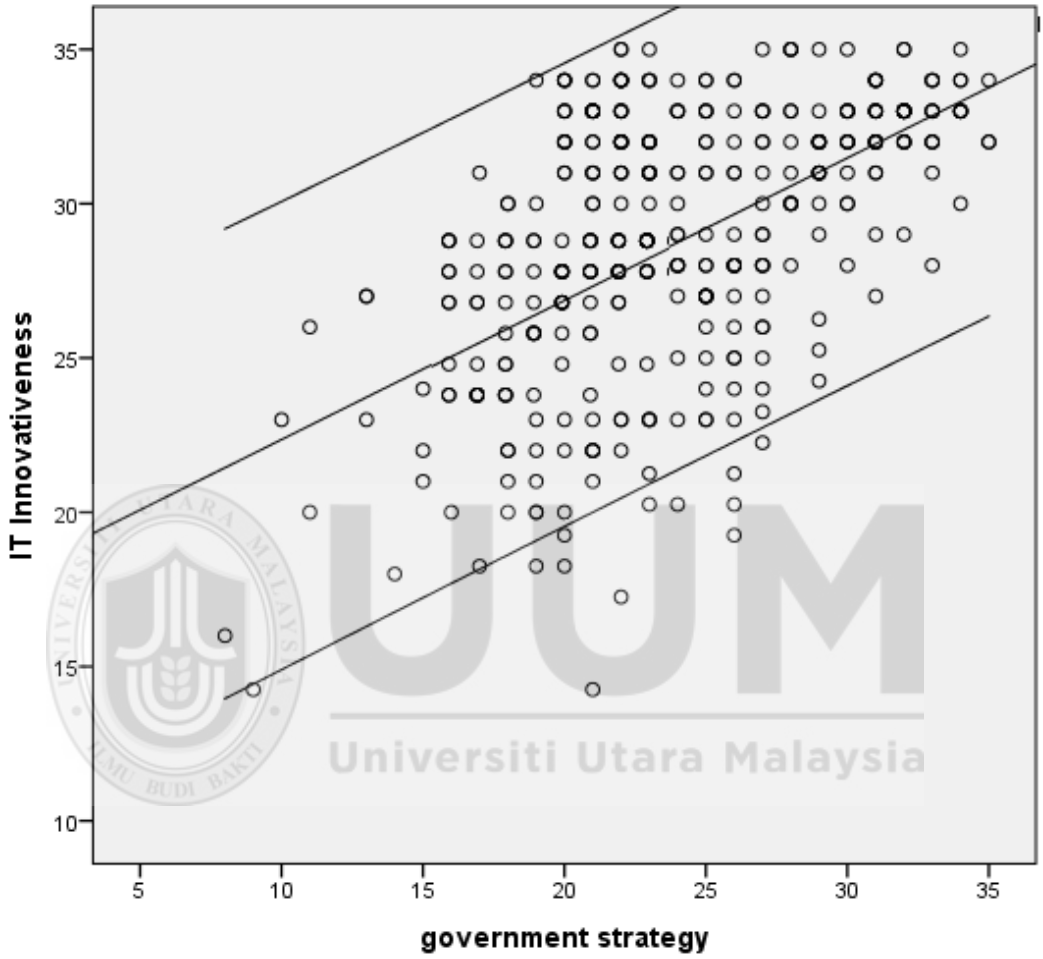


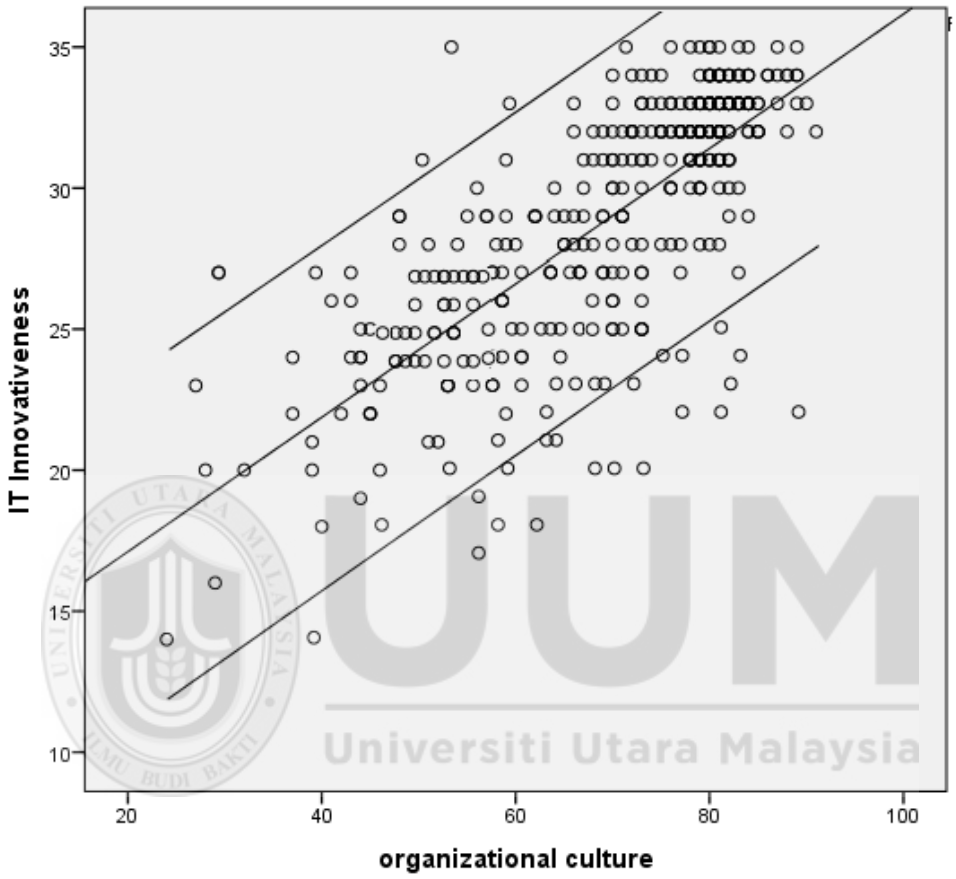
Appendix G

Scatter plot diagram of standardized



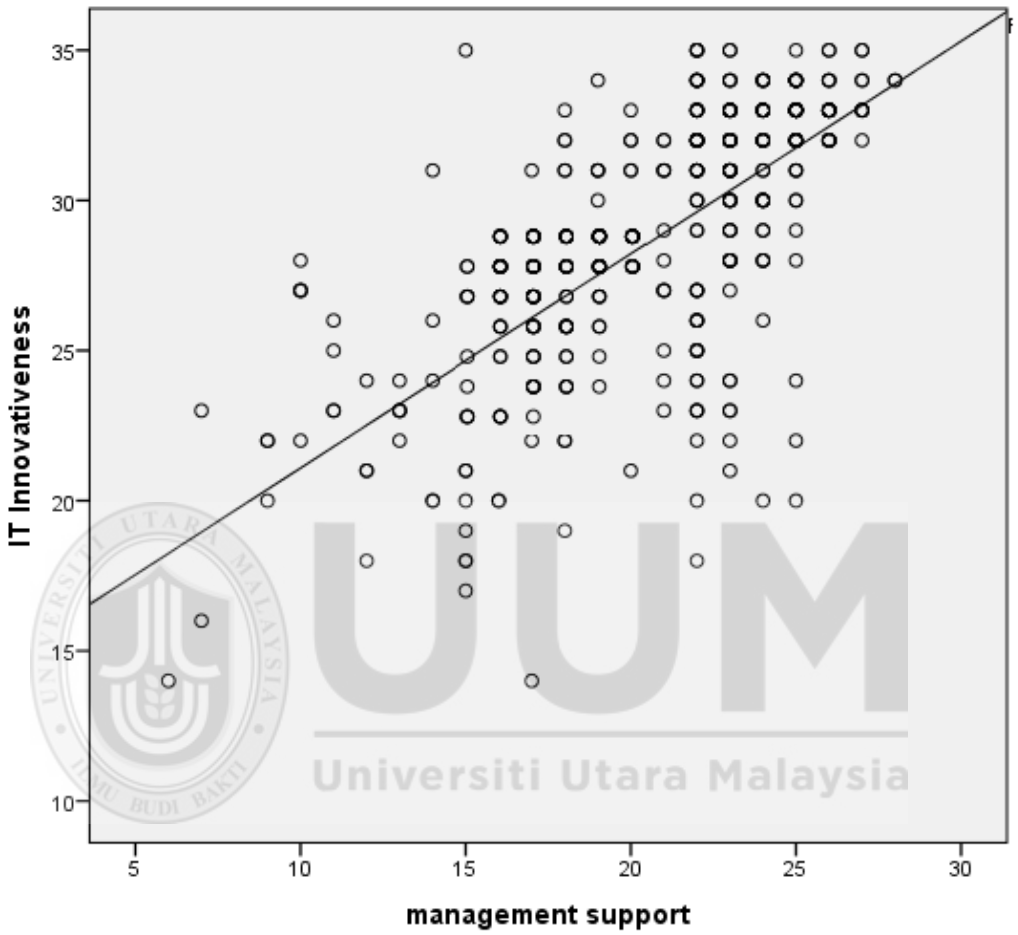


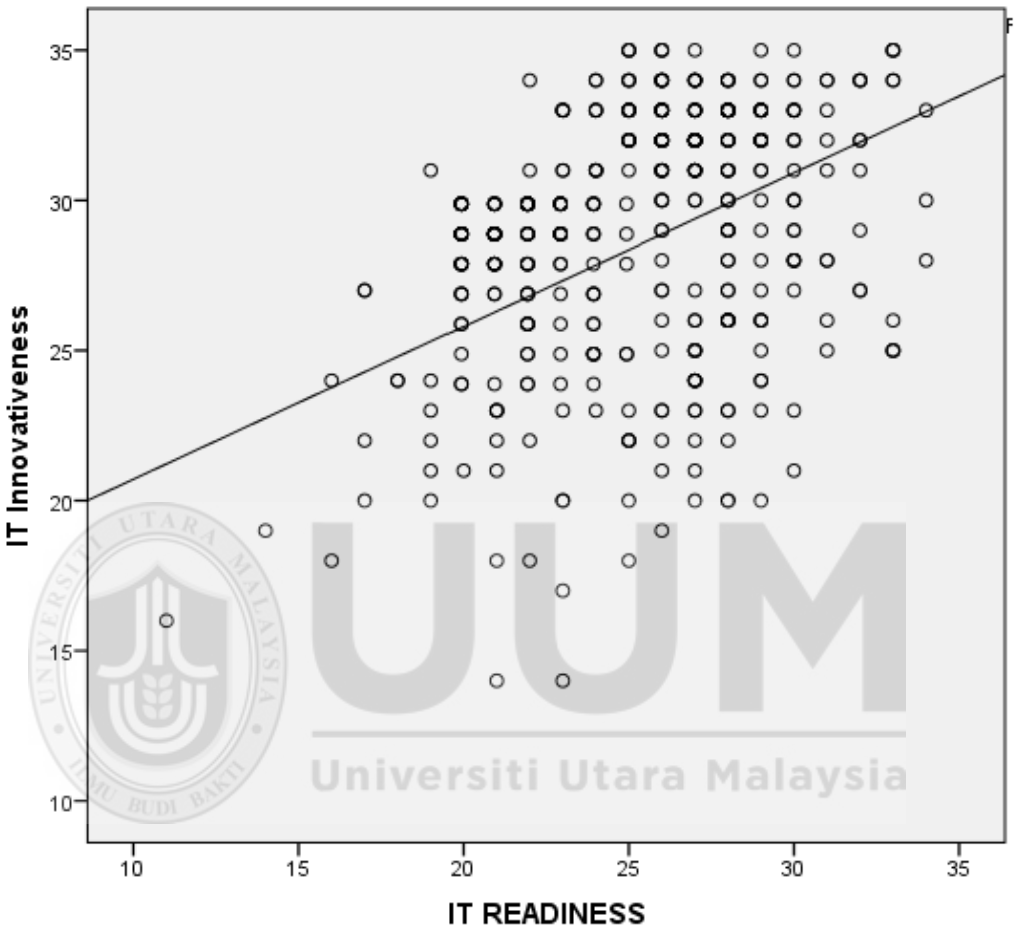


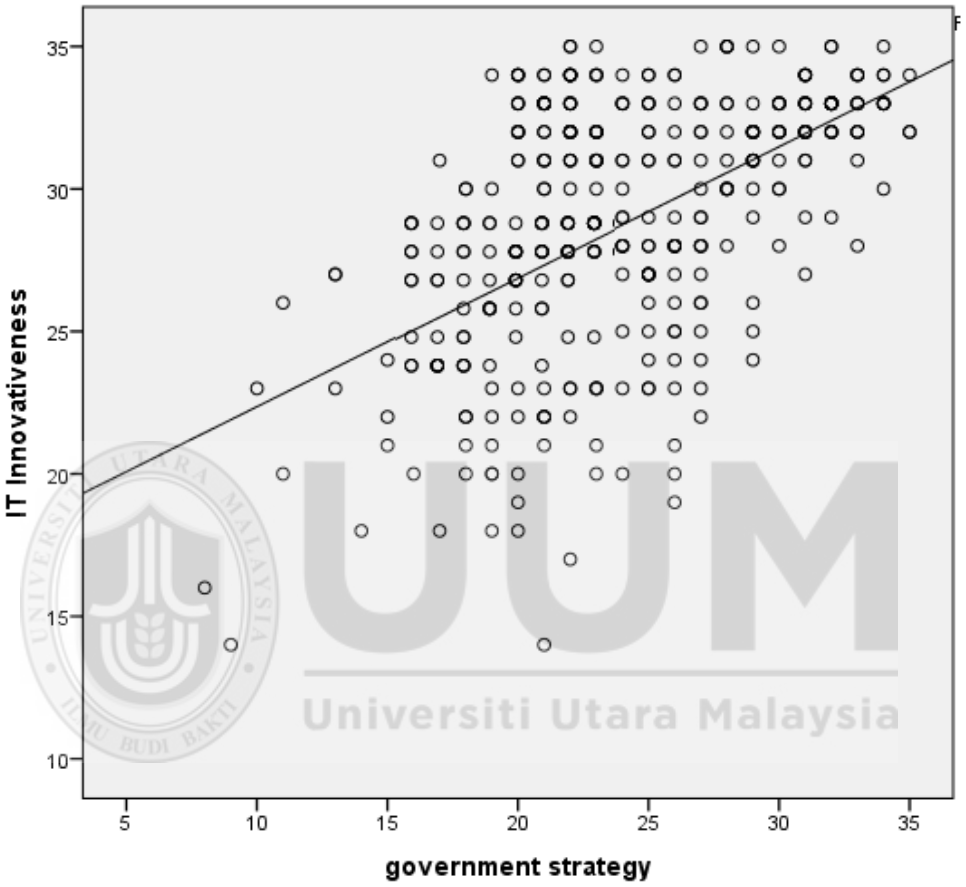


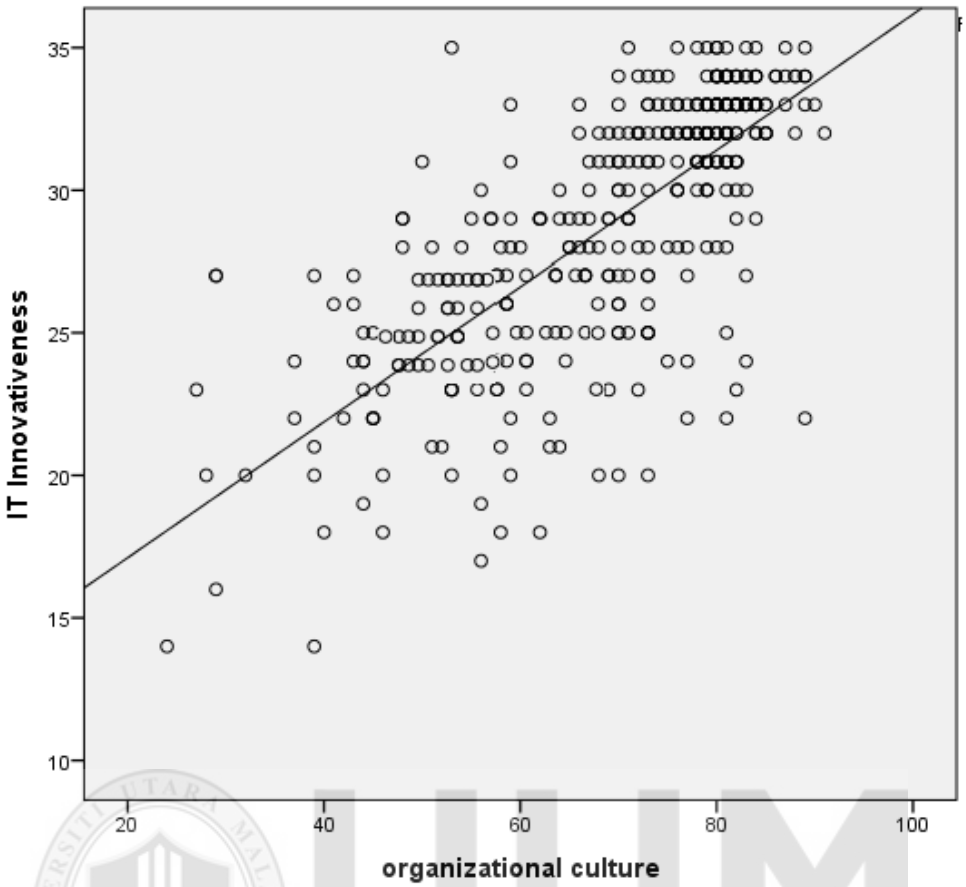
Appendix H

Scatter Plot Linearity Test



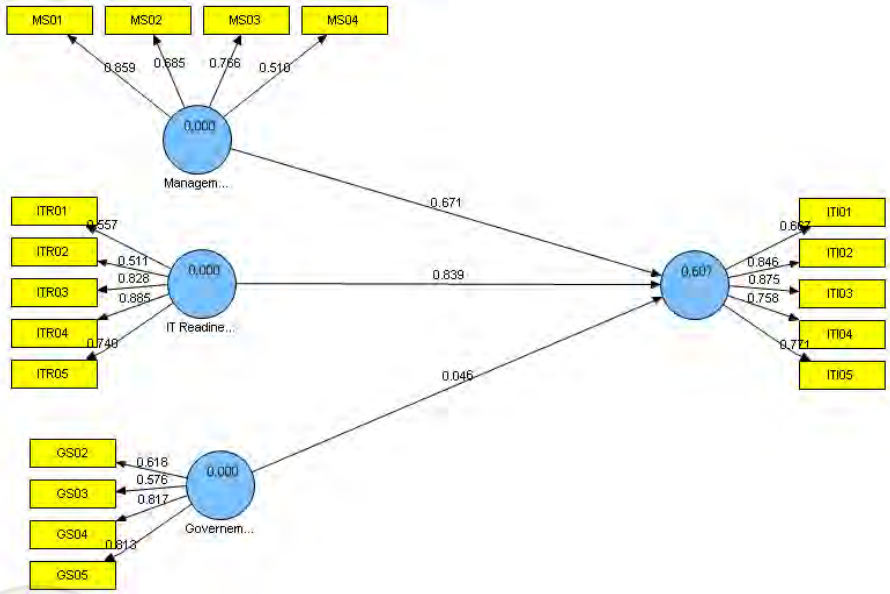






Appendix I

PLS Algorithm Graph



Appendix J

PLS Algorithm with Moderation