

ICT ADOPTION IN SMEs IN ARAB STATES AND THEIR IMPACT ON THE ECONOMIC DEVELOPMENT: COUNTRY CASE STUDIES OF UAE AND JORDAN

A Master's Thesis submitted for the degree of
"Master of Science"

supervised by
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CERTIFICATION

This thesis entitled “ICT Adoption in SMEs in Arab States and their Impact on the Economic Development: Country Case Studies of UAE and Jordan” , by “Amira Almugrabi” under the supervision of “Dr. Larry Stapleton” is hereby submitted for the fulfilment of the Master of Science in “Engineering Management”. This research has not been submitted in any other university or institution previously for the award of a degree.

APPROVED BY

Affidavit

I, **AMIRA ALMUGRABI**, hereby declare

1. that I am the sole author of the present Master's Thesis, "ICT ADOPTION IN SMES IN ARAB STATES AND THEIR IMPACT ON THE ECONOMIC DEVELOPMENT: COUNTRY CASE STUDIES OF UAE AND JORDAN", 95 pages, bound, and that I have not used any source or tool other than those referenced or any other illicit aid or tool, and
2. that I have not prior to this date submitted this Master's Thesis as an examination paper in any form in Austria or abroad.

Vienna, 31.03.2016

Signature

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ABSTRACT

SMEs are the main developing factor and an economy's diversifying factor that adoption and use of ICT represent the fundamental source of competitiveness and the basis for SMEs survival in the world market. To address the main drivers and barriers of adopting ICT, through conducting such a study, to clarify the obstacles facing SMEs in third world countries, especially the Arab countries to adopt Information and Communication Technology ICT. As well as the positive impact that will be added if this technology in case Adopted. By answering the primary and secondary questions and thus will learn how to achieve the objectives that have been mentioned in the study there are many studies on the same subject of the study, but mostly in the developed countries and in large numbers relatively compared to developing countries they are very few numbers of studies.

SMEs played a significant role in stimulating economic growth, increase employment. On the other hand, the Small and medium enterprises (SMEs) have serious problems with the requirements and challenges of e-business. However, focused on developing countries where the structure of the economy is typical. There are only a few studies that shed some light on prescribing strategies for ICT adoption by SMEs in developing countries, especially the Arab countries. Besides, despite the huge consideration is given to urge SMEs to adopt ICT, there has been a minimal efficient exploration into the variables impacting, empowering and hindering the selection of ICT inside SMEs. The findings of this research will provide a foundation for future research and will help policy makers in understanding the current state of affairs of the usage and impact of ICT on SMEs in the United Arab Emirates and in Jordan. The results of the study recognize the requirement for more training facilities in ICT for SMEs, measures to give ICT products and services at a moderate cost, and accessibility of free proficient advice and consulting at a reasonable price to SMEs.

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LIST OF ABBREVIATIONS

ICT: Information and Communication Technologies

SMEs: Small and Medium Enterprises

B2B: Business to Business

B2C: Business to Customer

GCC: Gulf Cooperation Council

IT: Information Technology

IS: Information System

TAM: Technology Acceptance Model

DOI: Diffusion of Innovation theory

TOE: Technology Organization and Environment

1.1 Introduction

Recently, governments in both developing and developed countries have started projects intended to improve the advancement of Small and Medium Enterprises (SMEs). Promoters of SME arrangements, for example, the World Bank contend that SMEs develop rivalry and business, which like this has small advantages on comprehensive financial effectiveness, advancement and positive efficiency development (Beck, Demirguc-Kunt, and Levine, 2005). These properties have made SME advancement programs a need in several economies overall and has seen an expanding extent of developing countries setting out on SME approaches for financial development and neediness easing. While there are numerous incredulous perspectives concerning the legitimacy of Pro-SME arrangements, the way that SMEs represent a generous offer of firms and work in developing countries is sufficient motivation to concentrate on them (Beck, Demirguc-Kunt, & Levine, 2005). "Most Arab business websites remain informational, providing at best online cataloging. With the little training and inadequate levels of awareness, SMEs do not benefit from access to new markets and inter-Arab trade potential. With an estimated average annual ICT spend of around \$20,000 per SME, SMEs in the Middle East have not been using or paying anywhere near the real amount of ICT services that they could. in key GCC markets such as Qatar, where a recent survey in 2012 revealed that 83 percent of Qatari SMEs spent less than 10 percent of their budget on ICT services, the majority of which spent even less than 5 percent "(Paul Lee, Duncan Stewart, Adil Parvez)¹.

Information and Communication Technology (ICT) has set up itself as a standout amongst the best apparatuses to commerce and develop information. The Late inscription has accordingly tended to the significance of cutting-edge ICTs in the administration of information through orders such as "Information Management System". It infers ICT has turned into a deciding variable of the achievement of an association in this information based

period. It is secure to say that, the approach of web and other cutting edge information and communication technologies changed the standards of the diversion. The most grounded people, on the other hand, business substances are those with the most access to significant information and who take the appropriate point of interest of it (Arreymbi, Agbor, and Adnan, 2008). Firms consequently see ICT as an essential instrument to accomplish intensity in the information-based economy. It is no surprise ICT has been exhibited as an important weapon to battle the innate burdens of small firms talked about above.

OECD (2004) for instance, trusts that with an end goal to support SME development, ICT seen as a vital element to conquer the present issues confronted by Small & Medium Enterprises. Furthermore, this organization exhibited that ICT and e-business applications provide many benefits across a wide-range of Intra- and inter-firm business Processes and transaction.

This way, government and advancement organizations have been empowering the reception of ICT trying to help commercial development through SME development in developing countries particularly. Regardless of these favorable circumstances, fast development of ICT at the firm level in developing countries is yet to emerge (OECD 2004). (Arreymbi et al.2008) highlighted that despite later writes about the achievement of information rich economies, numerous developing countries are still not getting up to speed with the pattern. It is in this manner imperative to examine the appropriation of ICT at the SME level in developing countries. The government has played a vital role in the success of the ICT sector, creating a competitive business environment to attract multinational firms and directly financing critical components of the physical infrastructure, including the ongoing deployment of high-speed fiber and mobile broadband networks. The country's free zones are central to this strategy and already serve as a regional base for some global players, including Microsoft, Google, Dell, and Facebook. Smaller local firms are also thriving and will

continue to benefit from government initiatives for small and medium –sized enterprises (SMEs).

As with many Gulf Cooperation Council (GCC) countries, however, the number of qualified ICT professionals has not been able to keep pace with demand. Education initiatives to support the development of the sector could help bring this gap.

1.2 Statement of the problem

Globally, SME plays a significant role in its contribution to the national economy regarding the number of people employed, and the wealth created (Rashid et.al, 2001). Nowadays all organizations of all types are using information and communication technologies (ICT), to cut costs, improving efficiency and providing better customer service. Governments are the biggest employer and also adopting ICT to provide better services to their citizens, UAE is the well-known example in the Arab world for offering many services online (e-Government), to simplify the lifestyle of people. Adoption of ICT in SME even with the existing barriers to its adoption will increase the production and the efficiency of SME, so the more SME adopts ICT, the better results would have.

Most of the large firms in the Arab states have effective computer systems to efficiency conduct business because they do have enormous amounts of money to install computer systems to support their business processes. On the other hand, the small and medium enterprises (SME) do not have fiscal and HR to gain, keep up, and use modern ICTs. ICT in the Arab states are away behind the rest of the world not only in the SMEs sector but other sectors as well. Poor technology awareness and natural resistance to the English-language-dominated medium often given as underlying reasons for the small spread of ICT in many parts of the Arab world. SMEs require simplicity, convenience and value of money, 75 percent of the spending goes to (Email, storage, security, LAN). UAE's ICT market will be close to \$ 8 billion by 2015. UAE is expected to grow steadily behind Saudi Arabia fueled by

steady SME investments and liberalization (Report Dubai 2013). Challenges for the Uptake of ICT: Preventions are identifying with the business environment most difficulties in ICT adoption and use lie in the political and administrative environment. With broken records in lawful and regulatory issues, weak ICT approaches, continuous R&D deficiencies, extreme dependence on outside innovation, and ongoing shortcomings in ICT execution, Arab states are often lacking in their preparedness for the networked future. Typically, owner-manager interest and enthusiasm drive ICT adoption though often in an unplanned fashion. Customer pressure is one of the main factors in SME e- adoption. Nowadays, the new situation "the Arab Spring" has an enormous impact on the SMEs, especially in zones where there is no smooth transition to democratic government. To get successful SMEs and get the most out of it; We should have a stable economy, security, and no dramatic price exchange rate because in several Arab Countries that affects the stability of SMEs and the implementing of new technologies. Some of the barriers to adopting ICT in SMEs, because of the lack of the awareness about the benefits of ICT implementation for firms, identifying the right solution are the biggest challenge facing the managers /owners of SMEs.

There are some of the studies that discuss adoption of ICT in SMEs in developed countries (Doczi, 2000; Stroeken, 2001; Caldeira and Ward, 2002; Schubert and Leimstoll, 2006 and 2007) but in the developing countries, there are no many studies that discuss the barriers to adopting ICT in SMEs.

1.3 Objectives of the thesis.

The main objectives of the thesis are:

- 1- To understand the extent to which SMEs in Arab Countries invest in IT when compared to other countries.
- 2- To identify important barriers to the adoption of IT in Arab SMEs.

As the fundamental objectives falls below a secondary targets:

- ✓ To identify the extent to which costs of acquiring and maintaining ICT hinders its adoption.

- ✓ To determine the degree to which attitude of managers/owners inhibits ICT adoption in Arab SMEs.
- ✓ To study the relationship between the spread of information and communication technology (ICT) and the performance of small and medium-sized companies using the cross-country evidence.
- ✓ To determine the extent of the government's policies hampering the adoption of ICT in Arab SMEs.

1.4 Research Questions

The study will seek to answer the following research questions:

Primary Questions:

- 1- Do SMEs in Arab Countries invest in IT when compared to other countries?
- 2- What the important barriers to the adoption of IT in the Arab SMEs?

Secondary Questions:

1. Barriers to Adoption
 - a) To what extent do the costs of acquiring business-related ICT hinder the adoption of ICT in Arab SMEs?
 - b) To what extent do the costs of installing business-related ICT hinder the adoption of ICT in Arab SMEs?
 - c) To what extent do the costs of maintaining installed business-related ICT hinder the adoption of ICT in Arab SMEs?

2. Management Attitudes

How does the attitude of managers/owners of small businesses affect the adoption of ICT in SMEs?

3. Government Policies

To what extent do the government policies in Arab countries hinder the adoption of ICT in Arab SMEs?

4. Is there a relationship between ICT adoption and SMEs performance in Arab SMEs?

5. Functional Profile of Adoption

What is functional profile of ICT adoption amongst Arab SMEs?

- a) What percentage of ICT adoption is targeted at IT infrastructure in Arab SMEs?

- b) What percentage of ICT adoption is targeted at other uses in Arab SMEs?
- c) What percentage of ICT adoption is targeted at business operations in Arab SMEs?

1.5 Significance of the Study

This study is important to various academicians and researchers who should use it to analysis on the outcomes and discover feasible regions for further research. The study will help strategy producers in comprehension the present situation of the use and effect of ICT on SMEs in the Arab States. The results of this study are valuable for future adoptions on components prevention adoption of ICT in SMEs in the Arab region, as well finding a possible solution to existing difficulties in the area of ICT adoption in SME's. The study based on published journals, books, government, Survey, and reports regarding ICT adoption in SMEs. The structure of this paper fundamentally considers the commitment of information and communication technology in SMEs for their proper development. The core of this paper is on the real issues like information technology, and quality of service in SMEs. Information and communication technology (ICT) gives numerous advantages over an extensive variety of intro and inter-firm business forms and connections to the SMEs. ICT applications can enhance information and knowledge management inside the firm and decrease transaction costs and increase the speed and dependability of exchanges for both business-to-business (B2B) and business-to-customer(B2C). The purpose of this study is to explore the key drivers and challenges of Information and Communication Technologies (ICTs) adoption by Small and Medium-Sized Enterprises (SMEs) in a helping the Arab States. SMEs play a significant role in developing and developed economies in job creation and diversification of economic activities. The literature demonstrates that while there are numerous drivers of ICTs adoption by SMEs, there are just as numerous difficulties from different components. SMEs, that possible use ICTs, can contend productively in both household and worldwide coliseums. Understanding the drivers, and barriers to ICT reception by SMEs particularly in the less

developed countries, and specifically in the Arab States, have not been tended to satisfactorily. This paper attempts to address this gap. The study will distinguish the principal difficulties to ICT adoption as an absence of domestic abilities, the high cost of ICTs, insufficient framework, financial constraints, and lack of data about suitable ICT arrangements and absence of time to execute. The concentrate equally recognized the key drivers of ICT selection as the wish to expand client management and responsiveness, build the capacity to cope, enhance general correspondence, grow deals and benefit, and to have better access to data. The consequence of the study will be significant to present and future SMEs in the Arab States.

1.6 Limitation of the thesis

It should be noted that this thesis has several limitations. The data for this thesis was collected from several areas in Jordan, in the United Arab Emirates, and from other Arab states. The literature about the adoption of ICT by SMEs in the developing countries especially in the Arab states is really rare from the online sources and also from books. There is a need to carry out similar studies in other Arab countries to investigate reasons for slow adoption of ICT by SMEs in other Arab countries. It was a little bit hard because there are no many books written about the Arab region especially in the field of ICT adoption and SMEs and SMEs characteristic. A large sample is needed to investigate other barriers that are hindering the adoption of ICT by SMEs to further validate these trends.

1.7 Key Words: Information communication technology (ICT), Small and Medium Enterprises (SMEs), E-business/E-commerce.

1.7.1 Information communication technology (ICT):

Information and communications technologies (ICTs) is a term that includes any communication device or application, including radio, television, mobile phones, computer and network hardware and software, satellite systems and so on, as well as other associated various services and applications, such as video conferencing and e-learning. ICT is any technology that is utilized to support information gathering, processing, distribution, and use. It Allows firms to exchange standard business transaction, documents. (Beckinkinsale and Ram, 2006). According to The UNDP's (United Nations Development Program) definition; ICT is an information- handling tools that are a varied set of goods , application, and services that are used to produce, store, process, distribute, and exchange information.

1.7.2 E-business/E-commerce:

E-business is more extensive than electronic commerce; including the exchange based e-commerce businesses and the individuals who run customarily, however, take into account online exercises too. An e-business can run any bit of its internal procedures web, including stock administration, risk management, finance, human resources. For a business to be e-commerce and e-business, it must both offer items online and handle other organization exercises or special deals disconnected from the net (Anita Rosen, 2000).

2. LITERATURE REVIEW

2.1 Definition of SMEs

SME (small-to-medium enterprise) is a convenient term for segmenting businesses and other organizations that are somewhere between the "small office-home office" (SOHO) size and the larger enterprise.⁽⁶⁾

SMEs exist in good numbers everywhere around the globe, but there is no consensus on the definition of SME because of practical considerations. Each country has different classifications of SMEs. Some countries define SMEs based on the number of employees while in others this depends on the value of their assets. In general, the lower employment limit for a small enterprise is between five to ten workers, whereas the upper limit is between 50 to 100 workers. Similarly, the top limit for a medium business is usually set between 100 and 250 employees. However, it is difficult to adopt one definition of SMEs in all countries, because the state of the SMEs also depends on the size of the markets or the economy in which they are operating (Motwani, Levenburg & Schwarz, 2006).⁽²⁾

In the UAE, Small and medium enterprises (SMEs) are viewed as the 'engine' for economic growth and a vital contributor to the economy's GDP. They are a primary source of entrepreneurship, innovation and employment creation. Dubai SME acknowledged the importance of the SME community and its critical role in developing and diversifying the economy by formulating and advocating a clear and comprehensive definition of SMEs in Dubai in 2009. This definition was a first of its kind in the UAE.

With a common language to define SMEs (based on turnover and employment size), Dubai SME is in a better position to drive the growth and development of the SME sector through

its core initiatives and other targeted programs.(Mohammed Bin Rashid Establishment for SME Development ,Dubai SME report 2013)¹¹

Table 1: illustrates the SME definition for UAE classified according to the sectors and size of businesses.

SME DEFINITION FOR UAE						
	TRADING		MANUFACTURING		SERVICES	
	Employees	Turnover	Employees	Turnover	Employees	Turnover
Micro	<=9	<=AED 9mn	<=20	<=AED 10mn	<=20	<=AED 10mn
Small	<=35	<=AED 50mn	<=100	<=AED 100mn	<=100	<=AED 100mn
Medium	<=75	<=AED 250mn	<=250	<=AED 250mn	<=250	<=AED 250mn

Everywhere throughout the world, there is developing proof that SME's play an essential part in the national financial advancement of any nation. SME's give the greater part of new employments and deliver a significant part of the innovativeness and development that powers monetary advancement. SME's represent (99%) of all employers and (52%) of the private workforce and provide virtually all the net new jobs and provide (51%) of private sector output and (96%) of all export of goods. ⁽³⁾

In Jordan, the economy depends almost entirely on small and medium sized companies to drive its economy. About (98%) of all businesses in Jordan are classified as SME's, two third of which have less than (19) employees. To face the ever-growing competition, Jordanian SME's are working rigorously to modernize their technologies and improve their competitiveness. The availability of funds from the government and other donors has also encouraged SME's to undertake these modernization activities.

Ministry of Industry and Trade classify SME's based on the number of employees and the paid capital investment as summarized in the following table. ⁽³⁾

Table 2

Classification	Capital Investment (JD)	No. of Employees
Micro	Less than 30,000	1—9
Small	30,000	10—49
Medium	30,000	50—249
Large	30,000	250 and above

Source: Jordan Enterprise Development Corporation.

2.1.1 Debate on SME policy Promotion

Jordan and UAE are some of the Arab countries that have signed promotion policy strategy so that they can cooperate in matters relating to innovation, research and how the SMEs can be developed and promoted. The memorandum that has been signed is a three-year agreement that aims to bring together Jordan and UAE to work as a joint venture in technological innovation. The state institution and private companies are expected to cooperate so that access to fund is attained, increase market opportunity and sharing of important information concerned with the right of each stakeholder. The SME policy promotion has long term goals of making sure that there is a strategic pact between Jordan and United Arab Emirates.

The United Arab Emirates in 2014 launched a program that was concerned with innovation so that the economy would be developed through creativity and innovation. Creativity and innovation are a vision that is expected to be attained in 2021 so that global competitiveness in the market can be established and also ensure that economic sustainability is attained. SME policy promotion is to ensure that innovation is attained for both Jordan and UAE. A well-structured leadership skill in both Jordan and UEA that recognizes innovation as a major opportunity is predicted to perform best economically. This implies that the economy of the both countries will prosper, and employment rate will increase as time goes on. Innovation is

expected to cover seven sectors, for instance, energy, transportation, education, space, in the health sector, water and lastly technology. So that the seven sectors can be the key beneficiary of creativity and innovation the strategy proposed to be implemented needs to have a National Innovation Committee so that it can convince the members to work together.

2.1.2 SME Contribution to the Economy

The Small and Medium-Sized Enterprises in the Middle East are known as the key contributors to the economy development. SMEs in Jordan make a total of 98% of businesses that operate their where it accounts for almost 60% of the labour force. The gross domestic product that SMEs contributes in the economy is 50% which is an implication that SME plays a great role in the economic development, and the statistics indicate that the investment outlook in Jordan is contributed by SME. In UAE small and medium-sized enterprises plays a significant role in the growth of the economy, for example, SME contributes to 60% gross domestic product which is a 100% growth increase since in 2010 the gross domestic product was 30% (Harati, Abhijit, and Lee, 2010). This is an implication that SME should be adopted as an economy booster in many countries and thus the government and other private sectors should fund SME for the sake of the future generation.

SME in UEA when it was being started it was funded by the government and initially the outstanding loan was 4% and later contributed to economy development with a gross domestic product of 60%. This is an indication that the small and medium-sized enterprise have the capability to boost the economy and thus it is important to make sure that they are funded so that there is economy development increase as the time goes on. Unemployment is a global challenge to many countries but the countries that have encouraged small and medium-sized enterprise to operate freely they have yielded much profit from the enterprises. Small and medium-sized enterprise generates employment for the increased population. For instance, many African countries and in Europe go to seek employment in the Arab countries

since the economy of Arab countries has opened up for the investment due to the increased number of the small and medium-sized enterprises. Based on the fact that small and medium-sized enterprise import and export their products they play an integral role in making sure that export earning is attained which is used as the government revenue and thus boost the economy diversification. Small and medium-sized enterprise is an instrument that has alleviated poverty in Jordan and UAE since many people are employed and others have opened up companies that supply the raw materials to the small and medium-sized enterprises.

2.2 Relationship between ICT Adoption and SMEs

Due to the advantages that weigh the disadvantages of small and medium-sized enterprises both in Jordan and in the United Arab Emirates the adoption of the ICT has contributed significantly to opening up the economy of both Jordan and UAE. The relationship that exists between ICT adoption and SMEs in Jordan and UAE is that both they use web presence. The use of the internet and social media has highly penetrated in Jordan, and in UAE and thus people are aware of it and thus they use the internet and social media to advertise their businesses. The use of social media is not enough in making sure that products of the SMEs are advertised on sold online but there is the need to ensure that web presence is operational since it can play a great role than the use of social media. Both in Jordan and in UAE web presence is used, but statistics show that only 15-25% of the SMEs use it compared to the social media which approximately 60% in both Jordan and UAE. The use of web presence list all the products and services that are provided by SMEs and how one can buy the products online. This has a greater impact both on the SMEs and to the people who need the products and services since online transactions are made for both the SMEs and the customer who need their products. This boosts the economy and also has an impact on the SMEs based on that they make the profit from the web presence.

Another relationship that exists in the adoption of ICT to the SMEs in both Jordan and UAE is the use of E-commerce. The business- to –consumer (B2C) is changing the mode of payment based on that many countries are shifting to the online payment methods. Both in Jordan and UAE small and medium sized enterprises use E-commerce as a strategy of creativity and innovation so that the economy can be boosted and also create employment for the ever-growing youth population. The consumers that are using the E-commerce in both Jordan and UAE are approximated to be 50 percent and 71 percent respectively (Andrew, 2011). Due to the penetration of the internet to both Jordan and UAE, the SMEs has an economic benefit where the commercial behaviour is totally changed making the economy prosper within a short period. The E-procurement strategy benefits both the locals and the nonlocals since raw materials have to be supplied so that there is a consistent value chain.

The last relationship that exists between Jordan and UAE in the adoption of ICT to the SMEs is cloud computing. This is a technology-based strategy where the remote servers are hosted in the network at a central place so that they can store, manage and keep or process data rather than individuals having personal computers. This is used as a security precaution since many Arab countries are targeted by the cybercrime and hackers (Harvie, and Boon-Chye 2002). The controlling of the local server or remote server by being hosted in the network implies that small and medium-sized enterprise can conduct their business routines without any challenges and thus they are controlled at a central place.

2.3 Models and Theories of Adoption/Diffusion of ICT

Most businesses are currently adopting the use of ICT as a strategy to make sure that organization is efficient and effective regarding productivity and performance. The aim of the companies is to make sure that customers are satisfied, and their need is met. If the customer is not satisfied, then it implies that the organization is not working towards the mission and

vision of the company. The theories and models that are used by the organization to adopt ICT have led to the deployment of sophisticated e-commerce that has globalized the world and thus make the companies operate freely in consideration that the use of ICT will ease their work and contribute to productivity and performance.

2.3.1 Adoption Approach

The adoption approach how the users of the ICT use the social decision to implement or come up with a system that needs to be replaced by the new system. It is imperative that individuals will make different decisions, and they can use different phases to make sure that the system is operational. The decision that is made varies, and it depends on the transactions that are normally conducted. The adoption approach uses different models so that it can be adopted. For instance, the use of Technology Acceptance Model (TAM) is applied to the new technology. The acceptance model indicates how and when the theory can be used. The perceived usefulness of the adoption approach explains how the model can be used with ease and how it works to meet the user requirements. Technology acceptance model does not initiate any personal control or behaviours, economic factors and competitors among others (Lowellyne, 2015). The external variables, usefulness of the adoption, ease of use and attitude are combined together so that they can overcome the challenges of adoption approach. This implies that an individual has the intention or attitude why the system should be adopted and either may vary from positive to negative. The system must have the usefulness to the customers and thus one must work to the attainment of the goals. The system adopted must be easy to use so that the goals intended can be accomplished.

Based on the fact that no system that can be adopted and lack limitation or challenges to ensure that the limitation of technology acceptance model is overcome, the Theory of Reasoned Action (TRA) was introduced. The theory is concerned with the attitudes, norms, the intention of the system or use and the actual use. It is imperative that the attitude indicates

why the adoption approach is being implemented and the cultural and social norms that are used, the intention that the system has and the actual use. Due to the limitations that associated with the TRA the Theory of Planned Behaviour (TPB) was established as an extension of the Theory of Reasoned Action. The Theory of Planned Behaviour does not entertain any behaviour of an individual and it does not work towards the behaviour of an individual. There is a need to consider how the ICT can be implemented in the business since it plays a significant role in making sure that performance and productivity are increased. It is the role of the senior administrators to ensure that Technology Acceptance Model is used with the aim of implementing the system is to meet the customer need.

The system must have usefulness to both the customers and the entire organization based on the fact that if it does not have usefulness, then it implies that it cannot be accepted by both the company and the customers. The system that has been adopted must have a specific intention to the customers. The system must meet the need of the customers and failure to meet the need it is obvious that it will not be accepted. User-friendliness is one of the factors that are considered by both the organization and the customers. A complex system that is designed for the ordinary citizens must be easy to use and should be user-friendly since a complex system usually makes the customer shift to the manual method.

2.3.2 Diffusion Approach

Diffusion approach of innovation as a model is concerned with how the media together with interpersonal skills and contacts usually influence the opinion concerning the judgment and implementation of a system. The theory is concerned with invention, social networks that consulted for the implementation, time and lastly the consequences that the system will have to the entire organization and the general public. Before a system is invented the stakeholders must come up with a steering committee that decides the approach that can be used for the implementation and how the functions of the system to both the organization and the targeted

customers. The social network is used by the stakeholders to make sure that they search for the information in the media so that they can adopt the system that meets the consumer requirements (Oyelaran-Oyeyinka, 2006). The use of media gives the opinion concerning the system and thus in cases of any problem that may be experienced in the future, the strategy to solve it are outlined. When the system is being adopted, it requires time frame so that if the manual system is being eliminated time frame is allocated so that when the time expires the new system should start to work immediately. When the system is being tested, it should be installed so that it can go parallel with the old system so that in the case of any problem the system administrator can come up with solutions during the early stage of implementation.

The consequences of the system must be clearly indicated since the adoption of the new system is an implication that productivity and performance will increase with time. The positive side of the system needs to be outlined and the negative side of it though coming up with a new system need fund (Mohlameane, 2012). The cost of the system does not matter a lot but the impacts of the system should be paramount when the system is being implemented. The information that is given to the system developers and system administrators is exchanged through the networks and how the opinion leaders think about it. The individuals who give the opinion influence it through Personal contact while intermediaries like change agent contribute directly to the diffusion of the system. In the diffusion approach, the adopters vary, and they have influenced their opinion differently. For example, the innovators start the influence or adopt the system beginning at 2.5%, the early adopters constitute at about 13.5% while the early majority adopters constitute 34%. The late majority constitutes 34%, and the laggards adopt the system with a 16% (Kamel, 2010). This indicates that not all the people are for the system to be implemented and thus as long as the system has a proven track of providing productivity and better performance and thus it should be implemented. Change is not something that is accepted easily when the system is being implemented. Resistance to change implies that the employees want to maintain the status

quo and thus productivity remains low. ICT should be adopted so that innovation and creativity are attained within a short period based on the fact that customer need is highly increasing.

2.3.3 Bass Diffusion Model Vs Rogers Diffusion Model

Bass Diffusion model is a model that is concerned with how a new product that is developed in the market is adopted in the target market. Since the product may be adopted currently or it has potential individuals who can adopt it, there is an established way that they interact with the product. The model states clearly that the adopters are the innovators and how the product or the system will take time before it is adopted depend on the degree the innovator wants it to start working in the market. The bass diffusion model is used in forecasting since the innovator first come up with the product and tested in the market (Shareef, 2009). When it is accepted, then the processing of adopting it to the new population is started. In technology forecasting, it implies that the system that innovators want to introduce in the company must undergo parallel installation based on the fact that system failure occurs and thus if one fails the system administrator can shift to the other.

In comparison to Rogers's diffusion model where the process of innovation is communicated using various channels at a given time among the stakeholders of the social system. For instance, innovation in the Rogers diffusion model incorporates relative advantage which implies that the innovators or any person who is concerned with the adoption of the system need to have ideas that can make a difference from the system that is operational. The innovation must be compatible with what is being adopted additionally; complex innovations that one cannot understand should not be implemented. The innovation must have trial ability, and thus, experiments need to be conducted so that the innovation can be approved. Lastly is observability which does not need to be stated but individual or users of the system

or product should see the result. Innovation should be communicated using a dedicated channel within a set time frame.

The social system that is used in the Rogers Diffusion Model gives the innovators equivalent units that can be used to make sure that the problem that has been experienced is solved and the goals attained. This implies that the unit set may be an individual, groups of people or even an organization and they should come up with the goals. In comparison with the Bass Diffusion Model, it has the same notion where it explains how the forecasters can adopt a system or a product using various means and should be operated without any problem. The adopters must interact with the people who are on the ground to accept the system or the product. Based on the fact that technology plays an important role in improving industries there is need to come up with a product that is technology centered. In the Rogers Diffusion model, the end-users are given the privilege to take part in the innovation-decision and thus it is possible for the innovation to be adopted or rejected (Mlitwa, 2012). The members or the steering committee has the mandate to reject and still the entire social system may adopt or reject. Comparing with the Bass Diffusion Model the innovators must ensure that the innovation or the product that is being introduced in the market has the potential to make a difference as compared to other products. This is because there is no stage where the innovator is given the opportunity to reject or adopt the system bearing in mind that the product or innovation has consumed fund so that it can be introduced to the clients.

In the Rogers Diffusion, Model the communication channel has been established where the innovators and other participant are given the platform to share the information concerning the innovation. The aim of the communication channel is to make sure that mutual understanding is arrived on so that conclusion can be made concerning the innovation that is being introduced to the stakeholders. The Bass Diffusion Model, on the other hand, there is

no communication channel that has been established so that one can deal with the customers or the project initiator.

2.4 Theoretical Framework of Bass Diffusion Model

The idea of Bass Diffusion Model is to forecast on how a new product can be adopted in the market and serve the purpose to the people using various strategies. The theoretical framework that is going to be discussed is the technology Diffusion theory using Bass Diffusion Model (Carayannis and David, 2006). The use of e-commerce is generally being used by many companies in various countries and thus to adopt e-commerce implies that individual must make sure that the industry they are operating on has engaged innovation and creativity. The new product that is being introduced in the market must be adopted, and thus, there is a need to forecast how many people can adopt it. This gives a clear picture on how the technology is being embraced by a certain population. The research try to answer the queries- how many innovators are likely to adopt the technology of e-commerce and when? When more people adopt e-commerce or technology that is being forecasted, more value is increased since innovators and customers know the product benefits. Interaction, on the other hand, play a significant role since as people interact with the new technology it implies they are becoming conversant with it though it depends on the time the product was being adopted. The early and late stage determines how the life cycle of the new system will be. As time goes on the product growth increases and the number of innovators, decrease significantly while the imitators increase as time goes on.

Technology is a competitive tool that is used by companies to ensure that the customer need is attained. A new technology before it is accepted and attains economic importance has to take time. This implies that the technology must be introduced to the economy which is termed as the innovation. Gradually the innovation is adopted by users this is done through

diffusion. The innovation strategy that has been established has increased uncertainty based on the fact that one does not know whether the customers are going to adopt the new technology. This implies that the new product being introduced in the market has uncertain future. The consumer stance toward the technology is a major key aspect that is noted and the personal trait that make an individual to be influenced so that he or she can adapt to the new technology.

Description of the bass new technologies diffusion model

The model was developed in 1960, and it was concerned with various types of new products. The model involves calculation presentation of the technology diffusion where a new product is adopted by a certain population. The model applies the principle of classifying adopters as the innovators and imitators. The rate of adoption during a given time depends on the innovation and imitation degree. A bass diffusion model is a tool that is used by the innovators to predict how a certain product is adopted in a certain population where competition is not involved in the market. Through interaction, the degree of adoption varies since one can be influenced to make a choice of adopting a new technology in the market.

3. The case of UAE and Jordan

3.1 Introduction to UAE's Economy and Jordan's Economy

The economic freedom score for UAE is 72.4, and thus, it is ranked as the 25th freest economy in 2015. Currently, the score is 73.4 since from last year it has increased its score by 1.0 points; this is driven by the investment freedom that is improved by the government, private and public sectors. The government spending boosts the economy since they allocate fund that revalues the economy, corruption free zone economy that outweighs the decline in monetary freedom and the trade freedom. The United Arab Emirates is the 2nd out of 15

countries that are in the Middle East with a higher score in the economy. For a period of 5 years, the economic freedom of UAE has increased by 4.6 points which are the largest increase ever. The score improvements in the economic freedom have been led to the regulatory environment and the monetary freedom.

The economic freedom results in moderate growth due to the economic reforms that position United Arab Emirate as a commercial and financial hub. Even though there is economic freedom, institutional reforms have a role to play based on the fact that the judicial system is vulnerable to the political influence. The level of corruption in the UAE has declined significantly and thus no cartels that consume public fund, and thus, the economy thrive well. The United Arab Emirates is made up of seven monarchies, and it is named as a federation. The seven monarchies are Abu Dhabi, Ajman, and Dubai, Ras Al-Khaimah, Sharjah and Umm al-Qaiwain. The government is concerned with the economy and for instance, in 2011 \$1.6 billion was allocated for the poor monarchies that are in the North Emirates to improve the infrastructure (Bazoobandi, 2013). The economy thrives due to the government working with the small and medium-sized enterprises, and still a monarchy like Abu Dhabi accounts for almost 90 percent of oil production. Dubai is considered and known as the centre for commerce, tourism, finance, and transportation. Due to the freedom of investment many people travel to Dubai so that they can conduct business and other go as tourists. The free trade zone that was established by the government plays an important role since 100 percent ownership of trade comes from foreigners and the government has set zero taxation playing a significant role in the diversification of the economy. The oil and gas exportation account for 80 percent government revenue which is used to maintain the economy by developing the infrastructure and boosting of small and medium-sized enterprises that operate with zero taxation.

On the other hand, Jordan has an economic freedom score of 69.3 ranking its economy as the 38th freest as per 2015 index. The score has not changed from last year since it has 0.1 points that is reflected as an improvement in areas relating to government spending and in the labour freedom that is unbalanced by declining of business freedom, corruption, and monetary issues freedom. In terms of growth, Jordan has been ranked as the 5th out of the 15 countries that are in the Middle East and the economic score continues to improve and increase as the time goes on. In the past 5 years, Jordan economic freedom has increased with a 0.4 point due to the deteriorating environmental regulations that have been introduced and the level of corruption has been increasing significantly, and thus it offsets the gains in terms of controlling the government spending and also in the property right. Despite those challenges the economic freedom continues to increase and the economy is moving to be free like that one of the United Arab Emirates. Jordan is open to the global investments and trade. The individual right to own property is respected though the government should combat corruption and ensure that the judiciary is reinforced so that it can have the independence free from corruption.

Jordan has few natural resources as compared to the UAE and thus it relies on foreign loans, international aids from other countries like the United States and Europe among others. It also relies on remittances from the workers who support the economy. The government plays a role in making that the economy thrives for instance in 2011 the government introduced the supplementary budget and relief packages that were used to subsidize the middle-class earners and the poor. In 2000, Jordan joined World Trade Organization (WTO) that encouraged free trade with United State that made Jordan trade without any challenges making the economic freedom to be increased (Rappaport, 2000). In 2001, Jordan signed an agreement with the European Union where it was funded by \$2.1 billion which was used for industrial purpose and payment of deficits. It implies that the economy has been funded enough, and thus trade and other transactions that can create government revenue are

boosted. The problem with Jordan is that it has more than 600,000 Syrian refugees who cause a serious problem in administrating and also resource problems. The United Arab Emirates most decisions are made by the ruling families. The judiciary is not independent, but the rule of law is followed strictly and maintained. In Jordan family businesses are not considered, and thus, the government is involved in many transactions like procurement among others.

3.2 SME Law in UAE, and in Jordan

One of the laws that have been approved by the federal law in the United Arab Emirates for the SME is that there should be a dedicated council that should be responsible for determining the incentives that should be offered to the small and medium-sized enterprises. This is according to the law No 2 of the federal government in the United Arab Emirates. On the same law, No 2 of the federal government SMEs are exempted from the custom tax for the types of equipment that are needed for the starting of SME, raw materials and other goods that are used in the production process. The law exempts the small and medium sized enterprises payment of the bank guarantees that those companies should pay for the new workers. The goal of registering SMEs in the United Arab Emirates was to raise the economy since they contribute greatly to the economic output. The gross domestic product when the SMEs were encouraged was 60 percent, and they estimated that in 2020 the gross domestic product has to jump from that 60 percent to 70 percent.

The legislation requires the federal authorities and the ministries to contract 10 percent of procurement budget for purchasing, serving of the machines and other types of equipment, consulting to the small and medium-sized enterprises so that the economy can thrive well and thus create jobs to the youths from different countries and encourage innovation. All the government-related firms in the federal government that hold stake above 25 percent must also make sure that 5 percent is contracted to the SMEs so that they are going to be vibrant in the economy and thus boost the economy and create jobs to the unemployed individuals

(John, 2011). The law requires that all the entrepreneurs that are categorized and they fall under the small and medium-sized enterprises benefit from the incentives offered by the council, and thus, they should be credited, funded or facilitation, marketing, and provision of licensing cost at a reduced rate.

The loan portfolio that is provided by the banks for the small and medium-sized enterprises should not exceed 3 percent when it is being repaid. This is a law from the federal government, and the central bank has been given the responsibility of making sure that pressure is mounted to the other banks not to exceed the loan portfolio. This is an effort to make sure that SMEs are supported based on the fact that they play a significant role in economy stability and creation of employment. The credit institutions like Emirate Development Bank is a government lending institution that was set up in 2011 with an aim of making sure that economy growth is promoted. The federal government introduced a law that 10 percent of the money must be rendered to SMEs so that they are given enough support and operate freely and in return boost the economy via the creation of job and innovations.

On the other hand, Jordan has also set SMEs law based on the fact that its economy entirely depends on small and medium-sized enterprises. Some of the laws that have been set for the survival of the SMEs are Ministry of Industry and Trade Law 18/1998. The article is concerned with the authorization of trade either internal or external to conduct trade without any fear of intimidation from any person regardless the transactions do not cause any problem to any institution. The small and medium-sized enterprises are given the right to conduct business with the government institutions, and free trade is encouraged for the sake of the economy.

The investment law of 68/2003 sets fund to the small and medium-sized enterprises so that it can compete with other private and public sectors. They are given the financial aid so that they can withstand the stiff competition that exists between the SMEs, private and public

sectors. SMEs contribute greatly to the economy of Jordan, and thus, they are protected by such law so that they can be dominant since they have shown economic improvements as time goes on. The following law that has been established in Jordan for the sake of SMEs is “Jordan Enterprise Development Corporation Law 33/2008” The law is concerned with how the SMEs can venture in the economy make Jordan a centre for commerce, finance and tourism like Dubai (Ghosal, 2011). Small and medium-sized enterprises are given the loan so that they can develop the region and make it a centre for commerce. The law indicates clearly that payment of the loan for SMEs should not exceed 5 percent so that SMEs can compete with other companies that were established earlier. It is the role of the lending institution to abide by the law for the sake and the future of Jordan economy. The last law that has been set for the SMEs survive is Jordan investment board 18/1991 that is concerned with supporting of SMEs. Based on the fact that small and medium-sized enterprises are concerned with economy improvements the invest board in Jordan promotes the SMEs by loan so that they can offer the products efficiently and effectively.

3.3 Current State of ICT in UAE, and in Jordan

Telecommunication Regulatory Authority in UAE is concerned with the use of ICT in the businesses with an aim to ensure that business is understood and the demand for the ICT services. A survey conducted shows that 1502 businesses use ICT as a strategy to increase the productivity, performance and ensure that stiff competition exists. The employees of these businesses are trained to be conversant with the use of ICT types of equipment so that they can play their role in ensuring that creativity and innovation are attained. The use of internet and telecommunication plays a major role in the United Arab Emirates based on the fact that e-commerce is conducted online. On the other hand, the use of telephony is significantly used so that people can communicate freely and thus globalization is attained. Businesses such as small and medium-sized enterprises are using the ICT to make sure that creativity and

innovation are attained. The e-commerce promotes economy stability and ensures that free and fair trade is conducted without any challenges.

To ensure that the use of ICT has increased in 2020 schools have adopted the learning of computer studies so that individuals can be conversant with equipment as early as possible. Software programs are facilitated by the government so that teaching can be conducted freely and benefit the students who are starting computer lessons. The use of chalkboard has been replaced by the use of the computer in schools and thus the curriculum has been changed and thus being computer based environment (Ghosal, 2011). Due to the introduction of the computer learning in the schools, it has led to more vibrant business being introduced which use ICT for the attainment of the goals. For example, 100% of businesses that operate in the United Arab Emirates use telephones lines that are fixed so that the employees can communicate easily and thus making the work easier. In addition, to that, 100% of the businesses that operate in the United Arab Emirates have personal computers and 95% has an internet connection so that they can share information together. 49% of the employees use the internet in the workplace for the accomplishment of their goals in the business, and thus, the companies have to install the internet (Peter, 2005). 65% of the employees use mobile phones that are paid for so that they can communicate with their clients and thus an indication that the use of ICT in many companies in the United Arab Emirates has increased significantly. 75% of the companies have websites that customers use to conduct business transactions, for instance, the use of e-commerce. Lastly, 95% of the business has introduced advanced technology through network services and thus making the companies transact its business according to their wish.

The United Arab Emirates uses the ICT to conduct business, and thus it termed as a centre for the commerce based on the fact that many banking institutions use online services to conduct the services. For example, the e-commerce is approximated to be 18% and thus the business

that conducts online business has made a difference since purchases and sales are conducted online. This is one of the reasons that make the United Arab Emirates to be among the countries with high employment rate due to the introduction of ICT and innovation.

Jordan is known for ICT development that makes the region competitive than any other in the Middle East. This is because of telecom liberalization. The market trends in Jordan use the telecommunication, where it generates revenue from these telecommunication strategies. The mobile penetration of the telecommunication is about 80%. The information technology is used in the e-commerce where online transactions are conducted. The ICT sector has contributed to the economy development and employment creation where it accounts for 14% (George, 2001). To ensure that the economy is improved and employment is created the Jordan government introduced small and medium-sized companies so that they can be creative enough and ensure that ICT is going to be used for the attainment of the goals. The internet users have penetrated into the economy where 50% of the employees in the companies use the internet services to conduct their business. The use of websites is used in conducting business where online services are provided. For instance, all the products that are sold by a certain company are shown on the website their prices and the payment method thus one the business is efficient and effective based on that time is saved. The use of websites account for 60%, and this plays a significant role in ensuring that the customer need is attained within the specified time and at the specified price.

The use of mobile phones as a communication tool is accounted for almost 90% where entrepreneurs use the mobile phones to conduct business. The mobile phones have globalized the world since different people can communicate freely in different countries while conducting business. In conclusion, the ICT plays a significant role in making sure that creativity and innovation are attained and thus more businesses being introduced which create employment for the young people. Middle East is used as a commerce, finance and tourist

center due to the use of ICT that globalizes the world. Many people are employed in the Middle East in various companies, and they are trained on how to use the sophisticated ICT types of equipment that boost the economy of Jordan.

4. Methodology

4.1 Collection of Data

The study used a quantitative research technique whereby a total of 50 questionnaires were issued to the selected sample, of 50 SMEs firms from two main countries in the scope of the study to reveal the impact of the ICT on small and medium enterprises. Furthermore, data collected from books, journals, and official website of various Arab States especially the United Arab Emirates and Jordan.

4.2 Analyses Tools

The results from the research questions were supported by a statistical analysis of the primary data which was carried out using the IBM SPSS statistics 23 and the Microsoft Excel functions.

5. RESULTS AND DISCUSSIONS

Information and Communication technology plays an integral part in developing countries and in entire globe. The use of information and communication technology plays an important role in cutting cost on Small and Medium Sized Enterprises (SMEs), improving efficiency and provision of better services to the customers. The government in Arab countries is adopting the use of ICT to ensure that the citizens get better services. For instance, the use of e-procurement plays a major role in ensuring that citizens are given equal opportunity so that they can be part and parcel of the economy development. Adoption of Information Communication Technology on Small and Medium Sized Enterprise requires an

environment that is competitive in the market, trustworthy and secure. International and other large organization in the Arab countries use sophisticated computer systems to ensure that business is conducted effectively and efficiently. This plays an important role in ensuring that their business is supported, on the other hand SMEs do not have the fund and human resource to obtain the sophisticated ICT and maintenance of those machines. The study seeks to discuss adoption of ICT by SMEs in Arab States and investigate the key drivers, impact and the challenges of information and communication technology (ICT) adoption by SMEs in the Jordan and the United Arab Emirates. Both service and manufacturing industries provide a locus for stimulation and use of emerging technology to facilitate their growth and development goal. The UAE and Jordan are among the countries with the huge emerging economy. The research drew a framework of adoption of the e-commerce technology by SMEs along with the diffusion of ICT (Rogers, 56). Technology models are much essential for understanding ICT adoption and the firms approach.

The study used a quantitative research technique whereby a total of 50 questionnaires were issued to the selected sample, and 45 of them were filled correctly and returned. Inferences were made from the results of the survey, and they revealed the impact of the ICT on small and medium enterprises.

- **Key drivers to ICT Adoption:**

The observation showed that the greatest key driver to ICT is the pressure in the competitive environment that forces organizations to advance their information system. Most of the SMEs' management believes that application of the modern technology helps in reaching a large market share and, therefore, attaining a high competitive advantage. The finding from the survey also confirms that the need for ICT system by SMEs in the United Arab Emirates and Jordan Countries is due to the needs of their customers. Consistent findings were also

found from the studies by Poon and Swatman (1999), Levy and Powell (2000) and Parker (2001). These studies added that SMEs are forced by large companies to adopt ICT system.

ICT sector has become the core pillar in sustaining the social and economic development. Firms are working round the clock to develop ICT strategies with an aim of placing themselves on a competitive platform. The fact that ICT plays a great role in the social and economic development has resulted in the need for government intervention. Various participants in this study had different views on the role played by the government in the development of the ICT system in their firms.

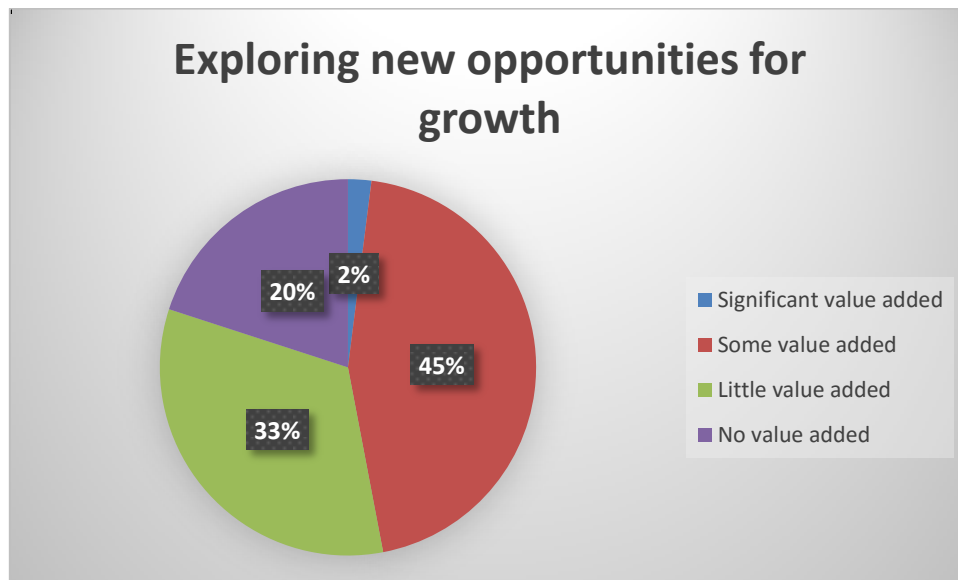
The respondents were asked how useful they would rate the government's support for creating websites for their firms. Approximately 63% with a mean of 4.47 confirmed their often access to government information. However, several researchers have argued that the main role of government should be not to provide direct support to the firms but to create opportunities for the SMEs and other organization to make their strategic decisions on technology development.

The other identified key drivers are the need for improving operational efficiency and cost reduction. With modern technology, firms are capable of producing at the lowest cost possible due to the improved efficiency and optimum allocation of resources.

The study also showed that adoption of ICT by SME in the United Arab Emirates and Jordan has helped the firms in reaching a broad range of customers and therefore increasing the volume sales. Communication with customers is the best marketing tool that helps in capturing a range market share by identifying the customer's needs and wants (Kotler, Philip, & Kevin L., 2012). On implementation of ICT strategies, firms have developed websites where customers can do their shopping online with immediate feedback and hence saving time. The firm is also in a position to serve more customers with limited time. Firms also

desire for adoption of ICT due to the need for exploring new opportunities to support the growth of their business.

Figure 1: (Source: the author's survey)



As presented in the chart above, the survey showed that adoption of ICT adds value to the growth of businesses. It is only in 20% of the firms in the industry that did not perceive any added value.

5.1 Towards a Theory of ICT Adoption amongst SMEs in Arab States

What are the important barriers to the adoption of IT in the Arab SMEs?

SMEs experience barriers when they want to adopt the use of IT based on the fact that installing the infrastructural that support the use of IT is too costly. The computers that are networked together so that they can communicate with each other need a lot of fund so that it can be implemented. The cost of buying the computers is also costly and the installation of the cables needs professionals who can do it. Based on the fact that the Small and Medium Sized Enterprises are struggling to sustain their employees the cost of adopting IT is cost when the SMEs has not been operational for almost 10 years so that it can use the profit that

has been gained for a number of years (Gingrich, 2003). It is the role of the top management in the SMEs to ensure that they can seek for fund to other financial institutions or government sponsorship so that it can adopt the use of IT in their industry. When SMEs in Arab countries adopt Information Technology employment and industry performance is boosted and thus productivity in the SMEs is increased.

The adoption of IT on SMEs in the Arab countries is one of the strategies that are used to create competition in the market and thus provision of the services that meets the consumer need. Stiff competition in an open market economy plays an integral role in speeding up productivity so that consistent of value chain is attained. Additionally, when SMEs adopt the use of IT implies that the employees need training so that they can work with the system without challenges. When the employees are trained it is an implication that the customer need is attained since e-commerce will be encouraged and thus online transactions are conducted efficiently and effectively.

The next barrier to the adoption of IT in the Arab SMEs is changing of regulations by the government that is in power. For instance, when SMEs have adopted the use of IT, it implies that they have used their profit to open up the economy by creation of employment and if the regulations that were used when adopting the system are changed it makes the SMEs to incur loss. On the other hand, SMEs borrow fund from financial institutions and this implies that they pay the loan on monthly basis and when the government change the regulations that are in place it makes the SMEs to experience loss. This leads to the SMEs not to adopt the use of IT again due to frustration that has been experienced. In this regard the government and the SMEs should work together so that they can set the regulations together and ensure that they are documented in a way that it will be hard to change since SMEs loss millions of money in such ways. The government should ensure that policies that have been set are not changed

even when the government of the day has been replaced by another government in a democratic manner.

Based on the fact that for SMEs to be adopted the use of IT in the companies they need internet providers. The internet provider must make sure that internet is available in daily basis since failure of internet or fibre cut implies that no transactions can be conducted. It is important for the SMEs in Arab countries to ensure that internet providers are reliable. When a company has adopted the use of information technology, it implies that the manual method that was used in the past is not operational and thus it is very hard for the companies to shift from electronic commerce to manual method. It is the role of the senior management in the SMEs to ensure that backup is stored for the purpose of the organization progress. Failure to back up implies that in case of internet failure or other mechanical causes there will be no transaction that can take place. This is an indication that the company in that day will record loss since nothing has been done.

The next barrier for the adoption of IT in Arab SMEs is internet security. Security precautions play a major role in ensure that cybercrimes and other form of system hacking are curbed. Currently cybercrime is a major drawback that is causing a lot of challenges to the SMEs in different countries. Security threat is a major concern even to the developed countries based on that they lose billions of money through unclear way (Fitzgerald and Eleanor, 2004). The systems are hacked where money and information is lost or revealed to the competitors. Based on the fact that SMEs do not have the finance to keep on upgrading their systems and regular maintenance the SMEs are subjected to hacking and thus lose money and information. Systems administrators need to be deployed in SMEs where they have adopted the use of Information Technology so that they can be maintaining the system regularly so that they can be aware of any malicious damage that hackers may be intending to conduct. The system that are not complex and are used by the SMEs should use anti-viruses

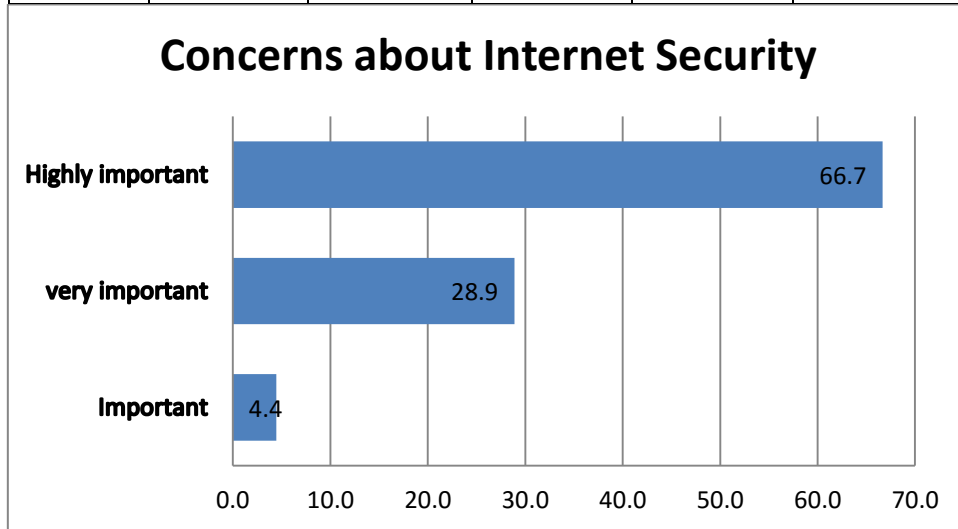
that are capable of detecting and thwarting any virus that is sent via online way. The staffs in the SMEs should ensure that company information should be kept secret manner. The login details of the system should not be revealed to non-staff to avoid data hacking and sharing of information with the competitors. Companies are recording losses annually in unclear circumstances due to the hacking of systems.

The last barrier for the adoption of IT in Arab SMEs is lack of technical know-how that is need for making sure that the system set are functional without hiring other IT professionals. The SMEs in Arab countries has a position that deal with creation and creativity for the purpose of making sure those SMEs is competitive in the market. The employed individual should be trained well so that they can support and convince the management that they are capable without hiring IT professionals. The online business transactions play an integral part in job creation and thus improve the economy significantly.

- **Challenges of ICT adoption by SMEs in the United Arab Emirates and Jordan**

Most of the firms in the SMEs sector have got scarce resources including finance and skills experts. Due to the shortage of high ICT skilled personnel, firms rely on outside vendors and consultants hence leading to high adoption cost. SMEs also have the challenge of sources of finance as compared to big firms in the industry. Modern technology might be much expensive for these small-medium enterprises to afford. Therefore imposes a significant challenge to the adoption of ICT by SME in the UAE and Jordan. Website maintenance cost is also high and difficult to manage especially for the SMEs. Respondents were also asked about the concerns on internet security, and 67% of them stated that it is highly important and 29% stated that it is very important while 4% stated that it is important.

There are Concerns About Internet Security					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Important	2	4.4	4.4	4.4
	very important	13	28.9	28.9	33.3
	Highly important	30	66.7	66.7	100.0
	Total	45	100.0	100.0	



(Source: the author's survey)

The Main Reasons for not adopting the ICT in Arab SMEs
1. The Cost & the Lack of adequate Skills
2. The High Expense of Adopting & Maintaining installed business-related ICT
3. The Shortage of Skilled Experts
4. The Information Security Risk
5. The Lack of Capital
6. The Employees' Resistance to Change
7. The Managers themselves

Technology has also been misused whereby system hacking cases are increasing day after the other (Heeks, 2009). The firm is now in a great fear of their information confidentiality as they perceive implementation of ICT system in their business would result in information insecurity. Information security is of great concern to the firms since it is only through this that firms can be able to sustain the stiff competition in the market.

5.2 Diffusion of ICT and SME performance: Cross-country Evidence

The survey conducted for the duration of two months for this research showed that there is a strong relationship between the diffusion of ICT and the corresponding SME efficiency. The two variables have got a correlation coefficient (r) of +0.767. Diffusion is the process by which information and technology are distributed through certain channels over a period of time. According to (Azam S., 2015), the diffusion process begins with knowledge of the innovation and ends in the implementation of the system in the firms that is being used. The diffusion process has got five phases which include; knowledge, persuasion stage, decision, system implementation and lastly the evaluation phase. However, the survey showed that there is a range of attributes that affect the diffusion process in different phases depending on the country that the firm is operating in. Across country survey was conducted in the United Arab Emirate and Jordan to compare the diffusion of ICT adoption by SMEs.

Measuring the contribution of ICT to the organizational performance was the main interest of the researcher. Despite the argument between IT, investment and the value added, consistent evidence has shown that there exists a positive link between the IT and the performance of the business. During the survey of the diffusion of ICT and SMEs' performance, different conceptualizations have been used the link between the two. The performance of the firm is the best indicator of economic development, and it can be measured objectively by use of historical data. The improved performance and the firm's competitiveness can be therefore said to be highly triggered by the application of modern technology in the firms' operations.

The need for innovation arises due to the customers' needs and the specific desires of the firm in fulfilling its growth strategies. SMEs use Technology to increase their productivity and facilitate organizational performance such as sales increase, profit increase and even cost saving (Azam, 2008a). The question of whether adoption and diffusion have led to success is mostly confused and therefore, the researcher decided to assess the impact of the ICT

diffusion with the performance of the SMEs. The study focused on looking for the contribution the ICT system to the organizational performance. This report examines the value creation to the firms in both service and manufacturing SMEs sectors in both the UAE and Jordan. The primary focus was to identify the factors that determine the adoption and diffusion of ICT. However, the previous studies revealed that ICT might have either positive effect of even negative impact on the firm depending on the implementation strategies.

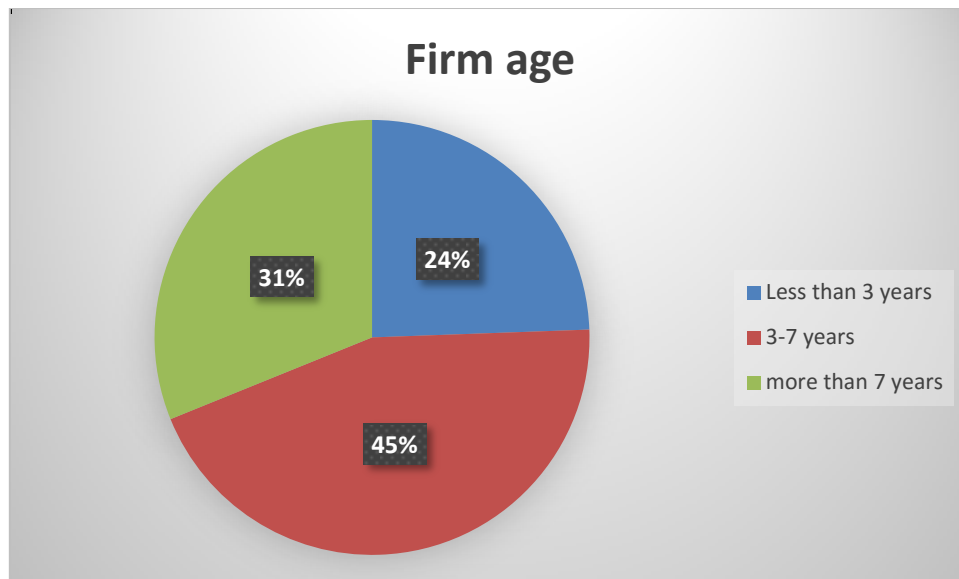
This study showed that there exists a strong positive correlation between the firm's performance and its ICT utilization. In comparing the firm's performance, most of the sample elements were selected from the firms which have been in the industry for three years.

Table 3: (Source: the author's survey)

		Firm age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 3 years	11	24.4	24.4	24.4
	3-7 years	20	44.4	44.4	68.9
	more than 7 years	14	31.1	31.1	100
	Total	45	100	100	

The table above reveals that it is only 24.4% of the selected firms that were below three years of service. From the selected sample, it was found that most firms believe that diffusion of ICT system is much essential in adding value to the organizational performance. This can also be represented in a pie chart as shown below.

Figure 2: (Source: the author's survey)



There exists a beneficial relationship that encourages the diffusion of ICT by the SMEs across the country. The need for effective communication channel and data transfer has continually grown and hence, forcing the firms to adopt the strategies that are essential for their survival in the market. This research provides an investigation of the integration between the ICT and the performance of SMEs.

A theoretical foundation was developed under the study whereby various principles and nations were applied in the diffusion of ICT. The theories viewed under the study include; diffusion of innovation (DOI) theory, Theory of planned behaviour (TPB), Technology acceptance model (TAM), Resource-based theory (RBT) and the technology organization and environment (TOE).

The theories of adoption /diffusion of ICT that fit the findings of the survey

The following are some of the theories that fit the findings of the survey of ICT adoption or diffusion in SMEs in the UAE and Jordan.

Diffusion of Innovation (DOI) theory

This theory explains diffusion process of the ICT and highlights different elements that affect the diffusion of innovation at various phases. As it was stated earlier, the diffusion process has got five phases which include; knowledge, persuasion stage, decision, system implementation and the evaluation phase. Each stage has got various factors that affect the entire diffusion process. According to Roger (1999), the diffusion process begins with knowledge phase where the existing innovation matures to the level of persuasion. In the persuasion stage, the customers and the suppliers form a positive or negative attitude towards the identified innovation strategy. After the persuasion phase, a decision stage follows, and if the decision is in the favour of the adoption, the execution or the implementation process starts.

However, this theory provides that various factors may affect the implementation stage depending on the business environment that the organization is operating. In most cases, developing strategies is always a simple task, but the greatest challenge comes in the implementation phase. Just like any other projects, diffusion and adoption of ICT by the SMEs in UAE and Jordan always depend on the implementation phase. The persuasion stage is most essential as it is explained in the DOI theory since all other phases would rely on this stage. Organizations may undergo through changes or re-invention processes, or the system may be rejected at the implementation phase (Roger, 56).

The theory also states five attributes that explains the rate of adoption and diffusion of the ICT by SMEs. The survey conducted in this study and the findings from the previous researchers have supported this theory and the phases involved in the adoption/diffusion of ICT in various organizations and most especially in the small and medium enterprises.

The DOI theory, therefore, fits the findings from the survey conducted in the UAE and Jordan.

Technology Acceptance Model (TAM) (Fred Davis, 1989)

The model was developed by Davis in 1989, and it aims at explaining the information technology usage behaviour. The theory states that the intention of diffusion or adaptation of technology is mainly determined by two key beliefs, they include; the perceived benefit and the ease of use. Perceived benefits examine the outcome or the external attributes of the IT system, and it is therefore task oriented. The users perceive that use of ICT in their business would lead to high-performance and eventually the achievement of organizational goals. On the other hand, the ease of use refers to the intrinsic attributes of ICT, that is, how easy it is to use. The business owners also believe that through effective human resource training, they can achieve ease of use of the ICT system. The fact that ICT diffusion and adoption requires highly skilled personnel to operate has forced firms to offer training programs to their staff to facilitate the ease of use. Various variables such as experience, diversity of technology, computer self-efficacy social influence and the relevance are added in the context of Technology Acceptance Model (TAM) in various settings (Davis, 69). The past research by various scholars has revealed the main components of TAM as the ease of use and the perceived benefit. This theory fit the survey conducted in the adaptation of ICT by SMEs in the UAE and Jordan.

So the theory of DOI and the theory of TAM both are relevant to the findings of the conducted survey.

The Firms in this sector adopt modern technology in order to achieve high efficiency and the value added to the organization. That is, the perceived benefit, they also acknowledge the ease of use as the study showed that most firms are offering HRM training to facilitate the use of ICT. From the survey, 62% of the firms in SME sector in UAE and Jordan perceives a high value is added while 31.1% perceives significant value added and only 3% who perceives some value added.

The respondents also perceive the need for training to facilitate the ease of use.

The findings showed that, it is only 31.1% of the firms that does not offer HRM training of the usage of ICT. The TAM therefore fit in this survey since the two beliefs have been met.

Table 4: (Source: the author’s survey)

Improving Operational Efficiency Reducing Cost					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some value added	3	6.7	6.7	6.7
	Significant value added	14	31.1	31.1	37.8
	High value added	28	62.2	62.2	100
	Total	45	100	100	

Figure 3: (Source: the author’s survey)

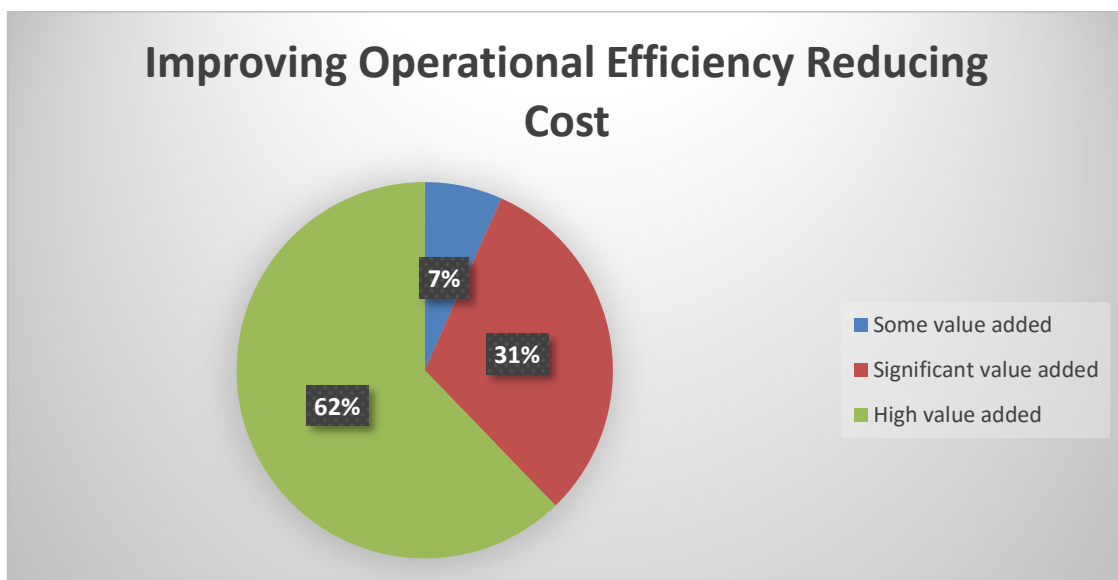


Table 5: (Source: the author's survey)

HRM training					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not at all	14	31.1	31.1	31.1
	very little	19	42.2	42.2	73.3
	sometimes	12	26.7	26.7	100
	Total	45	100	100	

Technology Organization and Environment (TOE) Theory (Tornatzky and Fleischer)

This theory was developed by Tornatzky and Fleischer in 1990. The theory focuses on three main aspects that influence the process of the diffusion of ICT. One of these aspects is the existing technology in relation to the new technologies, and then the availability of resources and the final aspect is the organizational environment. According to this theory, the diffusion of technology will always depend on the above named aspects. The organizational environment refers to both internal and external factors that might affect the adoption of ICT in the SME sector. This aspect involves elements like customers, suppliers, competitors and even the government. This theory is inconsistent with the Diffusion of Innovation Model of Roger as it emphasizes on certain aspects that affect the diffusion of ICT at specific stages. The model fits the survey in this research since we have also seen some of the factors hindering the adoption of ICT by SME in the United Arab Emirates and Jordan and they vary from one aspect to another (Oliveira, T and Martins, M, F., 2011).

5.3 Diffusion of ICT in UAE, and Jordan SMEs

This research sheds more light on the diffusion and the state of ICT in SMEs in the UAE and Jordan. The study showed that there exist digital divide phenomena between the developed

and the developing countries. The digital divides imply an ICT gap among the firms with access to ICT and those who limited access this vital facility. Even though some still hold the belief that ICT or having a website would not add value to their firm, the majority of the UAE and Jordan SMEs sectors agreed with the fact that this would add significant value to their business.

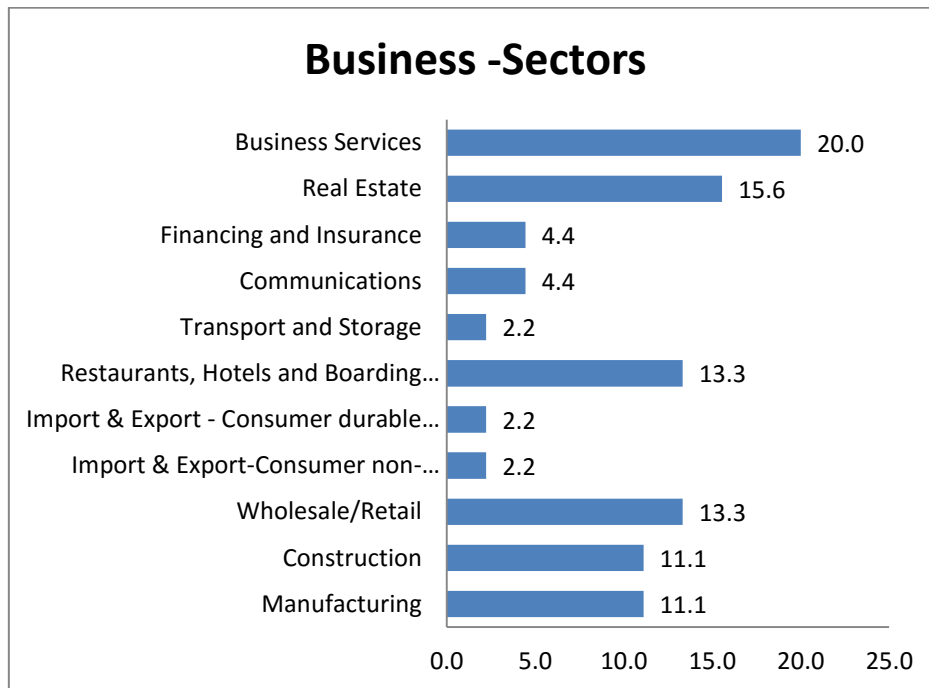
To enhance the reliability of the results, firms from various sectors were selected the sample contained majority from the service sector and real estate with 20% and 15.6% respectively. The proportion of the other firms depending on their business sector is as presented in the table, and the chart below;

Table 6:

Business Sector					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Manufacturing	5	11.1	11.1	11.1
	Construction	5	11.1	11.1	22.2
	Wholesale/Retail	6	13.3	13.3	35.6
	Import & Export- Consumer non-durable goods	1	2.2	2.2	37.8
	Import & Export - Consumer durable goods	1	2.2	2.2	40
	Restaurants, Hotels and Boarding Houses	6	13.3	13.3	53.3
	Transport and Storage	1	2.2	2.2	55.6
	Communications	2	4.4	4.4	60
	Financing and Insurance	2	4.4	4.4	64.4
	Real Estate	7	15.6	15.6	80
	Business Services	9	20	20	100
	Total	45	100	100	

Graphical Presentation (Source: the author's survey)

Figure 4:



The respondents in the above business sectors in SMEs confirmed that the diffusion of ICT is mostly triggered by the need of attaining a higher competitive advantage in the market.

The pressure for the diffusion of ICT by SMEs in the UAE and Jordan

The survey intended to assess the pressure for the diffusion of ICT in the firms at United Arab Emirates and Jordan. The questionnaire contained questions to extract information from the respondents concerning their perception of the diffusion of ICT. The results found that customers and supplier's needs are the main factors leading to the diffusion or adoption of ICT system in the business environment.

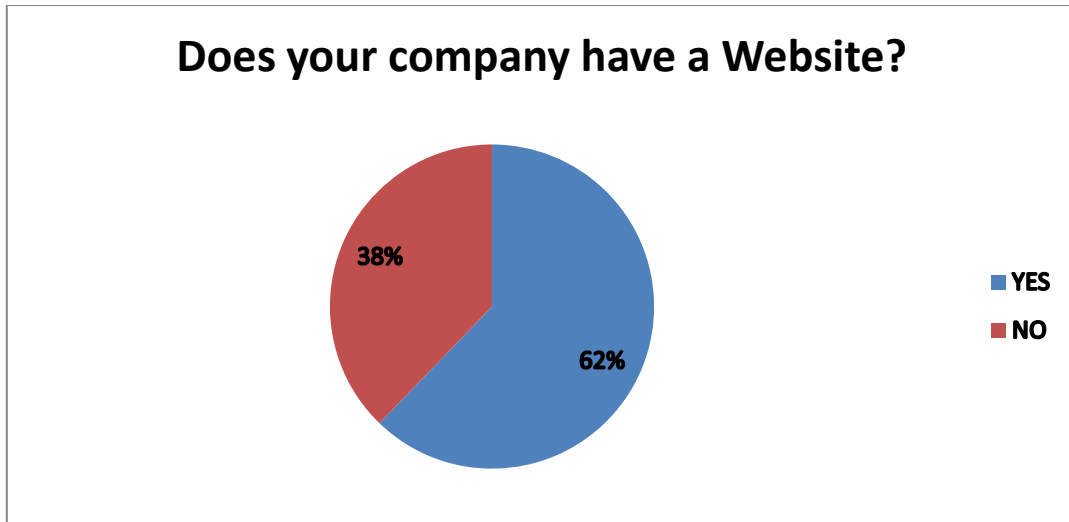
The finding of the study showed that customers and the suppliers hold a great role in the diffusion of ICT with 65.4% of the SMEs in the UAE and Jordan believes that this is true. Previous studies found that diffusion and adoption of ICT by SMEs are also due to the need of homogeneity across the sectors (Orlikowski & Baroudi, 2001). Technology has enhanced information asymmetry because any user can quickly access the required information through

the company's website. Taking an example of investors in the microfinance in UAE, the investor can get easily assess the financial performance of the firm via the website. The communication process has also made easier with the diffusion of ICT. Relevant information is posted on the websites of the organization where any authorized user can access it. Information sharing is very important in facilitating the company's growth as firms are capable of undertaking the constructive comparative analysis. Diffusion of ICT has also facilitated benchmarking of the companies for improvements and development to satisfy the customers' needs. ICT has also proved to have a great diffusion among the SMEs in the UAE and Jordan the study conducted showed that over 60% of the firms have a website. The possession of a website is the main criteria that were used to evaluate the diffusion of ICT by SMEs in the UAE and the Jordan. Respondents were asked if they have a website for their businesses and the findings are as presented in the data below.

Table 7: (Source: the author's survey)

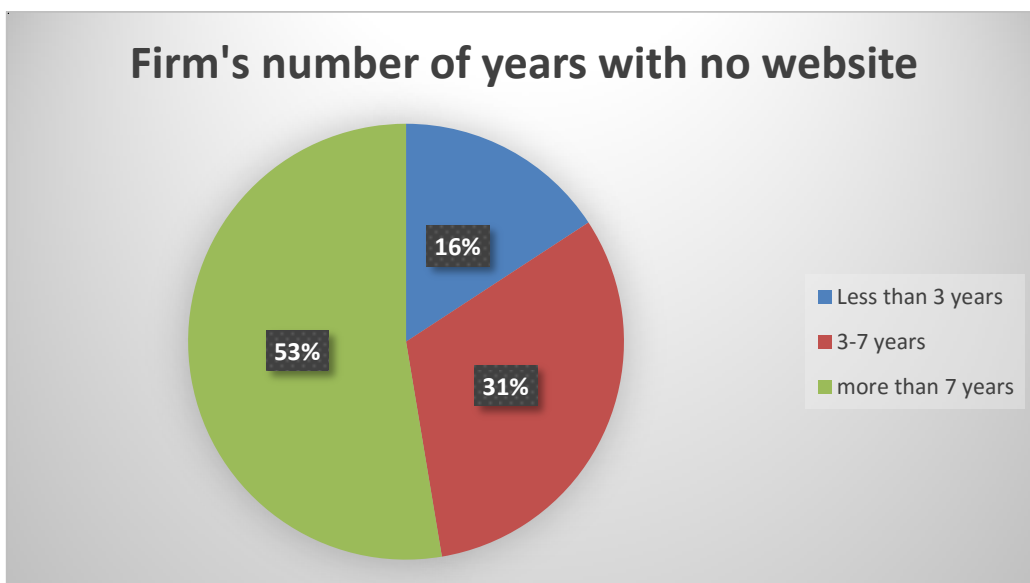
Does your Firm Have A Website					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES	28	62.2	62.2	62.2
	NO	17	37.8	37.8	100
	Total	45	100	100	

Figure 5



The findings also proved that the majority the firms which started operations for more than seven years ago consists the highest percentage of the organizations with no website. Of all the firms in the SMEs sector in the UAE and Jordan with no business website, 53% of them have been in operation for at least seven years. Those with no website and started their operations less than three years ago holds the lowest percentage of 16%.

Figure 6:



The results, therefore, implies that new firms are recognizing the diffusion of the information and communication technology as one of the ways of improving efficiency in the operations. New firms are also using this strategy of ICT diffusion to break the entry barrier. The previous study by Bandura (2006) also found that no matter how modern technology might be essential in improving the firms' performance, most organizations are unable to implement it due the resistant to change. Most workers are always against the technology due to the fear of losing their jobs and fear of the unknown (Bandura, 2006). Employees' resistant to change can be therefore said to be the greatest hindrance to the diffusion of ICT system in SMEs sectors in the United Arab Emirates and Jordan and especially to the firms that were in operations for than seven years back.

In the comparison of the diffusion of ICT in small and medium enterprises in both countries in the scope of the study, the most of the firms with no website are from the Jordan country while the rest are from the UAE. Out of the 25 correctly, filled questionnaire from Jordan, 15 of the firms have no website while only three firms in the UAE had no website. As stated earlier in this study, diffusion of ICT is a good indicator of economic development and therefore, it is clear that UAE is more developed compared to Jordan.

5.3.1 Attributes of the Sampled SMEs in UAE, and Jordan

As it was mentioned earlier, the survey was conducted on the selected sample of 50 SMEs firms from two main countries in the scope of the study. Out of the 50 issued questionnaires, 45 of them were correctly filled and returned. Twenty of these fully filled questionnaires were from the United Arab Emirates while 25 of them were from Jordan. The researcher also ensured that the select sample consists only the firms in small and medium enterprise sector. In assessing the diffusion of ICT by SMEs in UAE and Jordan, different attributes of the samples were evaluated. Some of this attributes include; communication, database management, operational efficiency, business growth opportunity, information security,

government information, online transaction, sales volume and the knowledge/skills management. The researcher ensured that the sample selected is a good replica of the entire SME sector. The value added to the firm from the diffusion and adoption of ICT was also measured in the study.

To fulfill the general objective of the study, the researcher utilized the primary data collected through the questionnaires. The research questions were systematically organized to develop the key insight of the various phenomena of interest. Apart from the quantitative methods, qualitative techniques were also applied in assessing the attributes of SMEs during this study. Qualitative methods can be used to explore and generate more thoughtful of the existing research (Kothari, 126). In the less explored context, ICT researchers have encountered a situation in the existing theories that tends to provide significant insight into the phenomenon of interest. The mixer of both quantitative and qualitative mechanisms offers a powerful tool to the ICT researcher in assessing the firms attributes and the contribution of technology to the organizational performance.

The results from the research questions were supported by a statistical analysis of the primary data which was carried out using the IBM SPSS statistics 23 and the Microsoft Excel functions. To begin with, the question of the number of years that a firm has been in operation was given a priority in order to assess if the firms that were in the operation long time ago are adopting the modern technology, or it is only the firms that are recently entering the market that is appreciating the impact of ICT on organizational performance. The diffusion and adoption of ICT were assessed by application of modern technology to the firms through the use of website and internet.

The details of the respondents were as follows;

Firm age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 3 years	11	24.4	24.4	24.4
	3-7 years	20	44.4	44.4	68.9
	more than 7 years	14	31.1	31.1	100
	Total	45	100	100	

Improving Operational Efficiency and Reducing Cost					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some value added	3	6.7	6.7	6.7
	Significant value added	14	31.1	31.1	37.8
	High value added	28	62.2	62.2	100
	Total	45	100	100	

Table 8: Computer Security

Computer _ Security					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very little	5	11.1	11.1	11.1
	sometimes	8	17.8	17.8	28.9
	often	13	28.9	28.9	57.8
	very often	19	42.2	42.2	100
	Total	45	100	100	

Table 5: HRM training

		HRM_training			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not at all	14	31.1	31.1	31.1
	very little	19	42.2	42.2	73.3
	sometimes	12	26.7	26.7	100
	Total	45	100	100	

From the above data, it is evidenced that firms implementation of ICT in SMEs have a positive impact on the general performance of the firms in the UAE and Jordan countries. Most of the firms in the sample selected have been in operation for between 3 to 7 years while those in the operation for less than three years were just 24.4% of the total sample. Over 80% of the sample agreed with the research hypothesis that ICT adds value to the firm in improving efficiency and cost reduction.

5.3.2 Bass Diffusion Model for Adoption of Computers in UAE, and Jordan SMEs

Utilization of computers in the business environment is one of the essential requirements. Most of the successful organizations are the ones that appreciate modern technology and apply it to their operations. However, some entrepreneurs of SMEs fail to consider the usefulness of ICT since they feel it is not compatible with their business sector. They may also not perceive technology as being easy to use, or even they fear the risks associated with the use of computers. The survey on the diffusion of ICT model for adoption of computers in the UAE and Jordan proved that some managers fear the information insecurity risk associated with the use of computers. Some people also perceive that use of computers at the workplace can increase laziness and lower the productivity of the employees.

Some workers may use the computers to satisfy their personal interest but not working for the interest of the organization. For example, workers may use computers to plays the games or even use them for personal communication and social media. In some organizations, you might find the employees are using the internet for non-official communication and therefore, adding extra cost to the firm that is not related to business operations or is not contributing to the firm’s profitability.

Furthermore, despite the above challenges of the installation of the computers in the SMEs, their benefits outweigh their drawbacks and therefore, they are worth of the implementation. The diffusion of ICT to play some of the roles with some functions is still undertaken with traditional means by some of the firms in the SMEs sector in the UAE and Jordan. The argument for this non-acceptance of computers is that ICT systems are not compatible with the business environment where they are operating. While assessing the diffusion model in the adoption of the computer by SMEs in the UAE and Jordan, the respondents were asked to rate the computer security in their firms, and 11% of the respondents rated it as very little while the rest rated it as sometimes often and very often. Organizations, in general, use ICT to conduct some of their daily tasks with an aim of achieving high efficiency. The respondents’ perception of the computer security was as summarized in the table below.

Computer Security				
	Frequency	Percent	Valid Percent	Cumulative Percent
very little	5	11.1	11.1	11.1
sometimes	8	17.8	17.8	28.9
Often	13	28.9	28.9	57.8
very often	19	42.2	42.2	100.0
Total	45	100.0	100.0	

The survey results have also shown that the adoption of computers may continue to grow in the years to follow. The data collected was analysed with the Bass diffusion model, and it revealed that the new firms in SME sector are adopting the utilization of computers in their operations. Firms are also eliminating paperwork in their operation, and most of the activities are carried out using the computer application. The entrepreneurs also appreciate the benefit of the use of computers to achieve high efficiency. There has been a consistent growth in the number of firms using computers. The Bass diffusion model has shown that, in the next ten years, over 90% of the Firms in the SME sector in the United Arab Emirates will have computerized most of the activities. The need for consistency and high accuracy in the record keeping is one of the major factors forcing the management in the SME sector to computerize most of the roles. This is because the majority believes that it is much easier to trace a computerized transaction when using the computers than when the transactions are recorded manually or with the traditional method of record keeping.

The survey provided an explanation for entrepreneurs who are confused about the usage of computers as the partial implementation of ICT in the workplace. The study has proved that diffusion of ICT is much essential in promoting the organizational performance by increasing the productivity. It is also advisable for the investor to bear the cost of installation since the expense is also compensated by the increased returns. Even though the start-up cost for computerized operations may be high, the strategy has proved that its application will lead to a significant reduced in the general operating cost. It is also clear that computer-based operations are most important to all stakeholders as it also facilitates effective communication between the users and hence encouraging the diffusion of ICT among the SMEs country-wide. The survey showed that firms are also focusing on the installation of multi-media, and this can only be achieved with the installation of the computerized system.

The primary data collected in the SMEs in the UAE and Jordan showed that it is only 11.1% of the firms that use multi-media very little while 89.9% stated that they use it sometimes. This data is as represented in the table below.

Table 9: Multi media (Source: the author's survey)

Multimedia					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very little	5	11.1	11.1	11.1
	Sometimes	40	88.9	88.9	100
	Total	45	100	100	

5.3.3 Bass Diffusion Model for Adoption of Internet in UAE, and Jordan SMEs

Firms are integrating ICT into business operations with internet digital based technology to enhance productivity (Manochehri, Al-Esmail & Ashrafi, 2007). The developed countries are the ones that have adequate utilization of the internet for effective communication. Consequently, internet based technology influences the ways in which customers, suppliers, and other external party contribute or play a part in the organization. The Internet has become an essential tool for achieving an ICT dependent firms and hence leading to the Diffusion of ICT in the SMEs in UAE and Jordan. The survey conducted has suggested a significant high usage growth of the internet. Internet penetration is much higher in the developed countries than it is in the developing countries. In investigating the diffusion model for the adoption of the internet in the UAE and Jordan, the respondents were asked if they perceive that usage of internet in their firms would help to improve their business.

Out of the 45 samples in the completed questionnaires, 30 of them said that the internet would not necessarily improve their business. Others said that it would increase the sale due to online selling.

However, in reality, the internet is very useful in communication, and it is recommended to any firm that would even want to extend their operations across the borders. Comparing the internet usage in the United Arab Emirates with that in Jordan, we can deduce that UAE embraces modern technology and the firms in the SMEs sector are considering its installation. Organizations that are utilizing the advantages of high internet penetration are creating more and more opportunities for growth. The diffusion of ICT through the internet and its utilization is a good economic development indicator and has attracted the attention of the government and the interest of many researchers.

According to the International Telecommunication Union (ITU) report, most of the successful firms are using the internet (ITU, 2013). Online transactions are facilitated through the internet connection. Customers can now shop from wherever they are without moving to the on-ground shops. The Internet is therefore not only saving time for the customers, but it is also helping the firms utilizing it in maximizing the sales revenue. SMEs sectors are also capable of identifying the customer's need and striving to satisfy them. The internet has also facilitated after sale service at this moment the product or service usage is described in the company's website or the user's portal. Some of the respondents also confirmed that the internet has been useful in their firm for the adoption of ICT system that has helped them in undertaking online transactions.

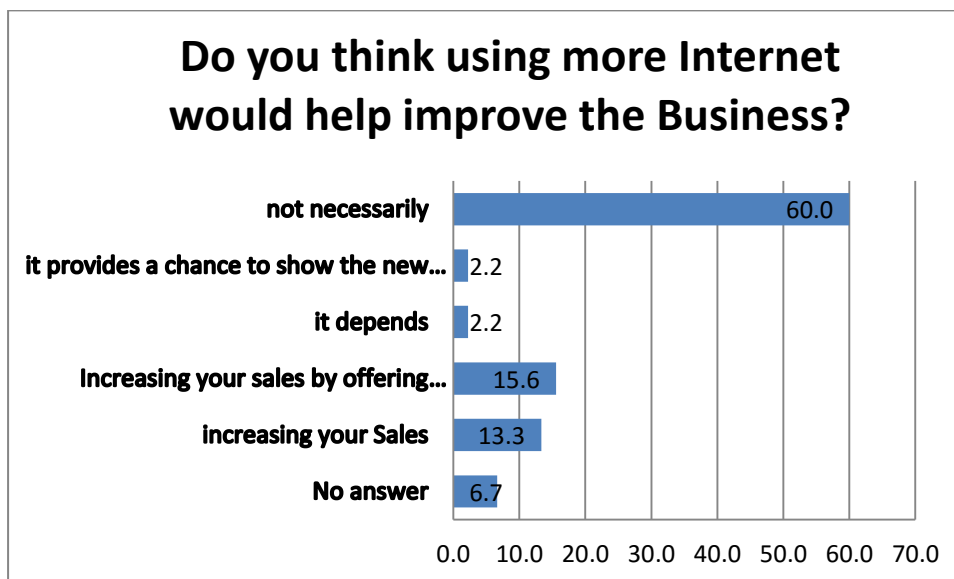
To achieve this objective, the respondent were asked to rate the statement that online transaction is not common to their industry, and only 4.4% stated that it is not important while 24.4% said it is little important and 8.9% said that it is very important. These findings are as presented in the table below.

Table 10:

Online Transaction is not Common in The Industry					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not important	2	4.4	4.4	4.4
	Little important	11	24.4	24.4	28.9
	Important	28	62.2	62.2	91.1
	very important	4	8.9	8.9	100
	Total	45	100	100	

The question of whether one thinks that the usage of the internet helps to improve their businesses was asked and the results from the survey were as shown in the graph below.

Figure 7:



Despite the previously named advantages of internet adoption in the diffusion of ICT, SMEs in the UAE and Jordan, most entrepreneurs have failed to recognize the link between the technology adoption and the diffusion with the organizational performance. This has therefore created a research gap, and further study needs to be done to evaluate the role of internet penetration in the ICT diffusion. This is because the question of whether the internet induces high performance is still under-researched and most especially its effects on the

SMEs sector. The survey has revealed that the Internet underpins almost every activity undertaken by the organizations in the modern world.

5.3.4 Bass Diffusion Model for Adoption of Website in UAE, and Jordan SMEs

This section analyses the diffusion of websites by the small and medium enterprises in the UAE and Jordan. Many firms in the SMEs sector have used websites and blogs to give their products and services quick access in both national and international exposure.

In the analysis of the adoption of ICT in SMEs, the possession of business website was examined and it was found that 62% of the organizations in the SMEs sector in UAE and Jordan have the website, and it is only 38% who have no website. Website development has identified itself as one of the major indicators of ICT.

The survey confirmed that website plays an important role in the adoption of ICT in the SMEs. The benefits of websites also help the firm in gaining and maintain more customers. The organizations are capable of selling products and services through their website. Other business operations are also made easier through the implementation of the website. The firms will also enjoy increased volume sales due to online selling. With an installation of a website, the customer can easily communicate for their needs and wants since there is a high possibility of immediate feedback.

The website is much essential for facilitating marketing and promotion. The firm is capable of advertising its products and services through the website and therefore, boosting its sales. Most of the big successful organizations have their own website where most of the company details are made available and more accessible to any relevant users.

The research revealed that some entrepreneurs do not still perceive the usage of websites being beneficial to their business. Most entrepreneurs in the SME sector have argued that websites be for big organizations but not for small and medium enterprises like the one they

are operating. They also see the adoption of websites as a creation of threats that competitors can use to acquire crucial information about the operations of the firm. SME lack skilled personnel to manage and monitor websites and therefore, adoption of a website may be of little or no benefit if no experts to manage the website.

The risk of information insecurity is also high in the organization that does not employ adequate skills to monitor the websites. Technology development is growing at a higher rate and any firm that wants to survive the stiff competition in the industry must acknowledge the advancement of technology and adopt modern ways of undertaking their role including the adoption of ICT. However the firms that are recently entering the industry are upholding the importance of modern technology, and they are capable of surviving the stiff competition with online marketing through the use of websites.

RQ: Do SMEs in Arab countries invest in IT when compared to other countries?

Small and Medium Sized Enterprises (SMEs) are those enterprises that has less than 250 employees though many companies have less than 15 employees and thus they are grouped as SMEs enterprises. The SMEs account for almost 95% of enterprises globally and they play a significant role in ensuring that the gross domestic product is increased. For instance, 60-70 percent of the gross domestic product comes from the SMEs and employment. The employment rate that is as a result of SMEs in Jordan is 60 percent while in United Arab Emirates is about 62 percent (Gamal, Nihal and Hulusi, 2001). It is an indication that SMEs plays an important role in ensuring that economy is sustained, increasing trade, generating of employment and creation of new entrepreneurship.

SMEs in Arab countries invest more in IT as compared to other countries. For instance, Arab countries promote innovative culture where the companies are provided with new ideas that need to develop the SMEs to be creative and innovators. Most Arab countries provide job opportunities to both the local and non-local companies since they use the information

technology for creativity so that job employment can be created. In addition, to that the gross domestic product need to be increased and thus the reason Information technology is encouraged. In many Arab countries they deploy knowledge based economy since they are not an agricultural economy. In the industrial economy resources like coal and iron among others are used. In this regard knowledge economy is used for creation of wealth in Arab countries. The use of Information Technology is has to be used so that the knowledge economy can be beneficial to the people (Marshall, Wallace, and Xing, 2006). For instance, job employment in the Arab countries is applied using online platform and thus it makes individuals from different countries to attain their goals. It indicates that SMEs in Arab countries invest in IT so that they can attain their target.

Based on the fact that Arab countries are knowledge economy it focuses on the production and management and the reason the economy of the Arab countries flourishing due the use of the knowledge technologies. For instance, engineering is one of the jobs that are advertised and thus they engage information technology and thus SMEs create jobs to the engineers. The interlocking forces that drive the SMEs to use Information Technology than other countries are globalization. The markets and the products that Arab countries venture on are global and thus the need to make sure that the products is going to be accepted in the market. It is imperative that whenever the customers are satisfied with the products it will open the market economy and thus ensure that the products are sold locally and internationally and the reason SMEs use Information Technology than other countries. SMEs use knowledge intensity which plays an important role in efficient and effective production. The production of knowledge intensity depends on information know-how, more than 70 percent of the workers in Arab countries use innovation and creativity in the companies rather than their hand. Through the use of creativity and innovation more products are produced and the consistence of the production is maintained (Marshall, Wallace, and Xing, 2006).

SMEs in Arab countries invest in IT when compared to other countries in social media. The social media is proofed to promote online interaction between the users and the SMEs management. By making sure that people are aware of what products that are produced and the one that are distributed the buying and selling rate increases significantly playing a significant role in making sure that product awareness is attained. Computer networking is used by SMEs in Arab countries to bring the entire world as a “global village”. This makes the products to be developed, sold and even bought through electronic networks. Arab countries hire employees from different countries through the social media as compared to other countries since they need to sustain the economy and the higher demand of goods and products to other countries. The SMEs in Arab countries are considered as an engine to the growth of the economy since it plays an important role in innovation and in the job creation. SMEs in Arab countries use Information Technology as a tool that promotes labour productivity and increase employment opportunities. By increasing the labour productivity it implies that the economy is boosted and thus the gross domestic product is increased significantly. Unemployment is a social factor that is a major concern both to the developed and the developing countries and thus SMEs use the ICT as a tool to minimize the unemployment rate by making sure that innovation and creativity is engaged in an open market economy.

5.4 Reason for Adoption/Non-Adoption of Internet

Bass diffusion model has been used to assess the factors affecting the decision for the adoption of ICT by SMEs. With the proper understanding of these factors, firms will be in a position of developing appropriate strategies that will help in fastening the diffusion process where it is necessary. The survey conducted in the adoption of the internet in UAE and Jordan can shed more light for the adoption or non-adoption of the internet depending on the ones’ perception of it a contribution to the general performance of the organizations. In

assessing the reasons for adoption or non-adoption of the internet, the researcher carried out an investigation of both the benefits and the drawbacks of the internet usage in their firms. The respondents were asked about the perceived value added to their business, and the findings were as described below.

5.4.1 Reasons for Adopting Internet

Out of the sample selected, over 70% of the firms in the SMEs sector have internet access within the organization. The respondents were also asked for the benefit of adopting the internet, and it was made out clear that the internet is the most essential in improving the performance of the firm. Through internet adoption, the organization is capable of undertaking the online transaction. E-commerce has facilitated the receipt of customer feedback and, therefore, increasing the customer satisfaction.

During the study, the respondents were asked for the reasons for adopting the internet and the following is a summary of the responses that they give.

Table 11: (Source: the author's survey)

Reasons for adoption of internet			
	N	Percentage	Cumulative percentage
General information	16	35.56	35.56
Marketing and product promotion	12	26.67	62.23
Online selling	5	11.11	73.34
Online supplies	2	4.44	77.78
Online banking	2	4.44	82.22
Records keeping	5	11.11	93.33
Any other	3	6.67	100
Totals	45	100	

From the above findings, it is clear that most of the firms would recommend the adoption of the internet to facilitate general information. These include communication within and outside the organization that is enhanced through the use of the internet. 35.56% of the firms in SMEs sectors would, therefore, consider adoption of the Internet for general information, 26.67% for marketing and product promotion, 11.11% for online selling, 4.44% for online supplies, 11.11% for record keeping while 6.67% would consider internet adoption for other reasons. The Internet is a useful tool for enhancing the diffusion of ICT in the small and medium enterprises in both the UAE and Jordan and across other countries. Organizations use the internet to carry out research that would support their growth objective (Kotler, Philip, & Kevin L, 2012). The Internet is also useful as it helps the firm in assessing useful information from other company's database and also from the government. Such information can be utilized to achieve high performance in the firm.

The respondents were also asked how often they do access government information, and only 6.7% said that they do it sometimes while 40% said that they access it often, and 53.3% access it very often. These findings are as represented in the table below.

Table 12: (Source: the author's survey)

Government Information					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Sometimes	3	6.7	6.7	6.7
	Often	18	40	40	46.7
	Very Often	24	53.3	53.3	100
	Total	45	100	100	

The other identified reason for the adoption of the internet by the firms is the need for record keeping. Organization urges for the use of online transaction and transfer of data to the appropriate user through internet. The Internet offers the most efficient and effective way to communicate through channels such as email, telephone, fax, postage and even the social media. Most of the SMEs in the UAE and Jordan have adopted the internet to use emails to communicate both within and outside the organization.

Another main reason of why firms adopt the internet is due to the need for online selling and online supplies. With modern technology, consumers have become more curious of online shopping since it is saving time. An organization with the internet is also capable of undertaking online selling and therefore, it is more likely to attract more customers. Apart from acquiring a large market share, the firm can also benefit from the internet by seeking the best vendor and perform the purchases online. The firm cannot implement its ICT strategies without adequate internet penetration (Doolin, McLeod, & Watton, 2003).

From the survey conducted in the UAE and Jordan, it was found that most firms in the SME sector use Internet to enhance communication and also facilitate an online transaction.

Perceived benefits of ICT adoption should be considered as one of the main factors influencing ICT diffusion. This study also showed that ICT facilitates the possibility of immediate customer feedback according to their demands. ICT also allows SME with access to ideas that might be useful in improving their productivity and hence boosting their profitability. The primary motivation for ICT adoption in the SME sector is the improved efficiency of operations and the overall organizational performance.

5.4.2 Reasons for Not Adopting Internet

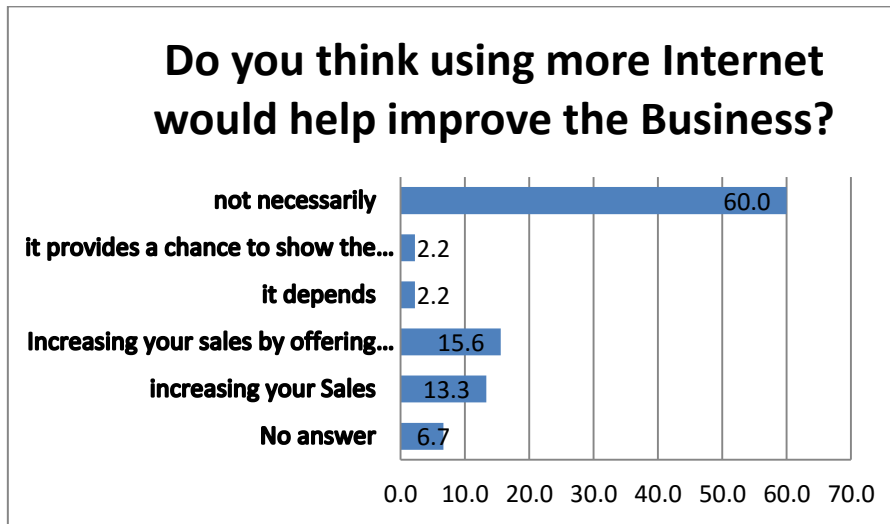
As it was mentioned earlier, it is not always all the firms that will perceive the benefit of the adoption of the internet in their operation. Some firms may have computers, have a website but fails to have the internet. This is because the majority may consider having the internet as

wastage of money and time. Some organization may also choose not to adopt the internet because it does not relate to their business model.

During this survey, the respondents were asked question to assess their perception for not having the internet, and most of them said that they do not feel that the use of the internet can improve their business. The findings were as presented below;

Table 13: (Source: the author’s survey)

Using more internet would help to improve the business					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No answer	3	6.7	6.7	6.7
	increasing your Sales	6	13.3	13.3	20
	Increasing your sales by offering online service	7	15.6	15.6	35.6
	it depends	1	2.2	2.2	37.8
	it provides a chance to show the new services	1	2.2	2.2	40
	not necessarily	27	60	60	100
	Total	45	100	100	



From the above results, it can be concluded that most of the firms in the SMEs sector fail to adopt the internet since they perceive that it does not necessarily improve their business. The other reasons for not adopting the internet included; lack of skill, high operational cost, information security and lack of customer access. Operating and managing the Internet requires special skills that might not be available to the employees and therefore, firms may prefer not having the internet to avoid complications. SMEs firms have limited sources of finance, and therefore, they may fail to cater for the required maintenance cost of the internet. Such firms end up preferring not to adopt the internet to avoid such additional cost.

Other firm owners have also failed to adopt the use of internet due to the fear the risk associated with it. As it was mentioned earlier, the internet may compromise with the information security and leaking some of the confidential information to the non-intended users. The competitors may get the firms information and utilize it for their own gain or even assessing the weaknesses of the business. Ones the competitors are aware of the other firm's weaknesses they can use them to beat the firm by gaining a more competitive advantage.

However, SMEs have some inherent qualities that make their segment exceptionally helpless and vaporous. SMEs, as a substance, are naturally cautious of money and have a restricted scope of business sectors. They need reserves for advanced promoting procedures and are

subsequently constrained to work in small markets (Burns, 2001). It makes difficult for small firms to broaden their business danger additionally obliges them to make limited choices. Therefore, SMEs mostly have a lower life compass than large companies do and their improvement is a delicate issue.

Arab small- and medium-sized enterprises (SMEs) shy away from technology despite the anticipated benefits. Due to security concerns and linguistic barriers, most SMEs rely on personal interactions and have not moved their operations online. Banks, the traditional business facilitators in the area, are poor professional mentors, especially in Egypt and the Maghreb. Underprepared for the ICT revolution, few offer transaction platforms, security features, and credit facilities for SMEs to acquire access technology.

6. POLICY RECOMMENDATIONS

Just like it was said earlier, the investigation has verified that there exist a direct relationship between ICT diffusion and the organizational performance. This study brings together the justification for the implementation of ICT infrastructure and its development. Various precautions have also been pointed out to equip the policy makers with the ideas of the both the benefit and the drawbacks of ICT diffusion in SMEs. Having that in mind, the policymakers will be in a position of improving ICT adoption in the SME sector in the United Arab Emirates and Jordan. However, firms are also encouraged to consider other opportunities for growth and not entirely rely on the adoption of ICT. Organizations can focus on joint ventures and partnership in the attempt of expanding their business operations.

During the survey, it was noticed that the greatest hindrance to ICT adoption is the start-up cost and lack of adequate skills. Firms' owners are therefore encouraged to adopt training programs that will help their employees in working with the modern technology more efficiently to achieve high performance. The companies should also come up with

appropriate financing plan to enable then in avoiding the challenge of start-up cost. The ICT adoption investment is worth because even if the initial cost is low, the survey has shown that ICT just like any other modern technology helps in increasing efficiency in the firm's operations and also reducing the operational cost (Doolin, McLeod, & Watton, 2003).

In addressing the issue of computer literacy, outsourcing of skilled experts can also be recommended. ICT skills shortage can also be a great challenge to the adoption of ICT and therefore, it is advisable for the policy makers to seek expertise from outside the organization to help in the implementation of ICT system. The outsourced expertise should also assist in training the employees for the usage of the installed or adopted ICT system. It is only with the application of qualified personnel that the firm will be able to achieve high efficiency in the operations. ICT adoption can also benefit the firm by attaining high homogeneity of products and services in the SME sector.

Internet usage survey has shown that UAE and Jordan's countries have still got the potential to utilize ICT for the economic development of their small and medium enterprises. The internet penetration in the two countries is also growing at a higher rate. The SMEs does not only contribute to the growth of their industries only, but also to the growth of the general economic of the country.

This research explored the development of ICT in SME and considering the environmental and organizational factors that influence the diffusion of ICT at various levels. The study verified that the organizations this sufficient knowledge and skills have got a favourable perception of the usefulness and operationalization of the technology. The entrepreneurs should utilize the available technology to come up with policy and strategies to facilitate ICT adoption in their small and medium enterprises.

The government should also play its part in ensuring ease access to technology by providing grants, loans, and tax incentives to the firms acknowledging the application and diffusion of

ICT. Technology development is growing at a higher rate, and any firm that wants to survive the stiff competition in the industry must acknowledge the advancement of technology and adopt modern ways of undertaking their role including the adoption of ICT to increase efficiency in their operations. There is also need to take a through market research to identify the needs and wants of the customers and coming up with an appropriate system that will satisfy the needs of the customers. As it was explained earlier, adoption of ICT will help the organization in gaining a high competitive advantage (Porter, M.E., 1998).

ICT can improve the competitive advantage with the adoption of the internet by creating numerous opportunities for the small and medium enterprises to compete equally with other large organizations in the industry. Website adoption can also help the firm in competing on a global scale by attaining large market share due to the improved efficiency of their operations. In General, information and communication technology is a vital resource of SMEs that help them to access global market and hence enhancing competitiveness. ICT adoption should be therefore made the main agenda for the decision makers.

7. CONCLUSIONS

The main aim of this study was to analyse the diffusion of the ICT by SMEs in the Arab States, especially in the United Arab Emirates and Jordan as a model. This study examines the value creation to the firms in both service and manufacturing SMEs sectors in both the UAE and Jordan. The primary focus was to identify the factors that determine the adoption and diffusion of ICT.

To achieve the primary objective of the study, the research first focused on the linkage of the ICT adoption and the firm's productivity in the SME sector. The diffusion process of ICT in the UAE and Jordan was assessed, and the findings confirmed that the usage of modern technology is more essential to the performance of the firm. ICT adoption has also given the

firms involved a high competitive advantage to the firms that are utilizing the advantages attached to it.

The results, therefore, implies that new firms are recognizing the diffusion of the information and communication technology as one of the ways of improving efficiency in the operations. New firms are also using this strategy of ICT diffusion to break the entry barrier. The previous study also found that no matter how modern technology might be essential in improving the firms' performance, most organization are unable to implement it due the resistant to change and therefore, it is the role of policy makers to minimize the employees' resistant to ICT adoption.

SMEs firms that started operations less than three years ago are the ones exhibiting a greater tendency to adopt computer and also using the modern technology. Highly skilled business owners were also found to have a high possibility of adopting computers in their businesses. The study has also shown that there is much need for training the workers on the usage computers and other modern technology components such as the internet.

The policy makers are also required to address the challenged facing ICT adoption by SMEs. Such challenges include; information security risk, lack of capital, employees' resistance to change and also the lack of skills.

Some firms have not been able to adopt ICT in their operations due the employees' resistance to change. The workers may oppose change due to the fear of their job security as most of them perceive that automation of the business operation will lead them to jobless. In addressing this challenge, the policy makers should involve the worker in decision-making phase while adopting an ICT system.

As it was explained in the Roger Model (Diffusion of innovation theory) the process has got five phases which include; knowledge, persuasion stage, decision, system implementation

and the evaluation phase. All the stakeholders in the business should be involved and encouraged for their participation. This is because employees are less likely opposing a system that they contributed to its development. The employee participate will also ease the training process since they will already have prior exposure to the proposed system.

Today's organizations world has been greatly influenced by ICT as the technology is rapidly changing global production. The survey carried out in this research has shown that firms in the SME sector must stress on the adaptation of ICT to take the advantages that are associated with its implementation. However, the question of the adoption of internet and its linkage to the organizational performance remains debatable.

The researcher was unable to obtain adequate evidence to support the linkage between the adoption of internet and the performance of the firm. A significant percentage of the firms in the sample selected stated that the internet would be not necessary for increasing their performance. This, therefore, leaves a gap for further research to identify the relationship between the adoption of the internet and the firm's performance.

The majority of entrepreneurs have also argued that the highest risk of information insecurity be due to the adoption of the internet. This, therefore, calls for the necessity for high skilled experts to ensure that the system is well-secured, and there is no any information that can leak an unintended party without the knowledge of the management. Developing and promoting a cloud computing infrastructure is therefore proposed as one of the most effective ways to help the SMEs in the UAE and Jordan to survive in this competitive environment.

There is also a necessity for the government to intervene and provide a conducive operating environment where firms can freely adopt the ICT systems and benefit from it. The government should also help in fighting some of the challenges facing SME sector in their adoption of ICT. The fact that ICT development signifies a growth not only to the firm but also to the country leaves the government with a role to play to facilitate its implementation.

It is also the duty of the government to protect local firms from unfair competition. SME consists of more than half of all businesses in both UAE and the Jordan offering employment. Their contribution to GDP growth is also significant, and therefore, the government should play their role in supporting ICT adoption to increase the efficiency of the operation of the firms.

Reference

1. Paul Lee, Duncan Stewart, Adil Parvez
(http://www2.deloitte.com/content/dam/Deloitte/xs/Documents/technology-media-telecommunications/predictions2014/dtme_TMT_Predictions2014_SMEAdoptionOfICTServices.pdf)
2. Motwani, J., Levenburg, N. & Schwarz, T. (2006) 'Succession Planning in SMEs.' International Small Business Journal, 24(5) pp.471-495.
3. Jordan Enterprise Development Corporation , <http://www.jedco.gov.jo/joomla/>
4. http://worldsmeexpo.hktdc.com/pdf/2011/SeminarRoom_C/Dec_3/1630_1800_24/2_AAI-Ahmad.pdf
5. AnitaRosen,TheE-commerceQuestionandAnswerBook(USA:AmericanManagement Association, 2000)
6. <http://whatis.techtarget.com/definition/small-to-medium-enterprise-SME>
7. Ministry of Labor, central starts Dept., Dubai statistics
8. International Data Corporation (IDC.com).
9. ICT Market Opportunities for SME and Large Enterprise,
<http://docplayer.net/7138981-Ict-market-opportunities-for-sme-and-large-enterprise.html>
10. Report: Dubai 2014 www.oxfordbusinessgroup.com/country/Dubai pg.273.
11. www.sme.ae/StudiesAndResearchDocument/SME_Report_English.pdf
12. SMEs, Growth, and poverty, NBER working paper NO.11224.
<http://www.nber.org/papers/w11224> march 2005. (Thorsten Beck, Asli Demirguc-Kunt, and Ross Levine, 2005)
13. Entrepreneurship and small business, Paul Burns 2001.
14. World Bank (2004) review of Small Business Activities.

15. E-Business and SMEs, E-Commerce and Development pg.37 Report 2004 by United nation Conference on Trade and development
16. Enterprise Architecture for small and medium Enterprise. Growth, chapter 61, Dina Jacobs, Paula Koteze, Alta Van der merwe, and AURONA Gerber.
17. Advances in Enterprise Engineering V: First Enterprise Engineering Working Conference, EEWC 2011 Antwerp, Belgium, may 16-17, 2011.
18. Advances in Enterprise Engineering VII: third Enterprise Engineering, Working Conference, EEWC 2013, Luxembourg, May 13-14 ,2013 , Henderik A. Proper, David Aveiro, Khaled Gaaloul (Eds.)
19. OECD (2004), "ICT, E-Business and Small and Medium Enterprises", OECD Digital Economy Papers, No. 86, OECD Publishing. <http://dx.doi.org/10.1787/232556551425>
20. Ashrafi, R. and Murtaza, M. "Use and Impact of ICT on SMEs in Oman." The Electronic Journal Information Systems Evaluation Volume 11 Issue 3 2008, pp. 125 - 138, available online at www.ejise.com
21. <http://www.smef.org.bd/v2/index.php/2014-01-22-04-15-32/ict-for-smes/2014-03-16-09-42-40>
22. Beckinsale M. and Ram M. (2006). Delivering ICT to ethnic minority businesses: an action research approach. Environment and Planning C: Government and Policy, Volume 24, Number 6, Pages 847-867.
23. E-government implementation and practice in Developing countries / Zaigham Mahmood, University of Derby, UK.
24. Information Communication Technology (ICT) Integration to Educational Curricula: A New Direction for Africa / Cosmas Uchenna Nwokefor
25. Andrew, L. Visualising Strategy: A Method to Support the Product Innovation Process in Manufacturing Small and Medium Sized Enterprises. 2011. Print.

26. Bazoobandi, S. Political Economy of the Gulf Sovereign Wealth Funds: A Case Study of Iran, Kuwait, Saudi Arabia and the UAE. Abingdon, Oxon: Routledge, 2013. Print.
27. Davis, F.D., Bagozzi, R.P. & Warshaw, P.R. (1989). User Acceptance of Computer Technology: Comparison of Two Theoretical Models, *Management Science*, 35 (8), 982-1003.
28. Carayannis, G., and David, C. Knowledge Creation, Diffusion, and Use in Innovation Networks and Knowledge Clusters: A Comparative Systems Approach across the United States, Europe, and Asia. Westport, CT: Praeger, 2006. Print.
29. Fitzgerald, B., and Eleanor, W. IT Innovation for Adaptability and Competitiveness. Boston, MA: Springer US, 2004. Print.
30. Gamal, A., Nihal M, and Hulusi, I. Beyond Credit: A Taxonomy of SMEs and Financing Methods for Arab Countries. Cairo, Egypt: Egyptian Center for Economic Studies, 2001. Print.
31. George, J. SMEs and Company Directorships. Melbourne: Leo Cussen Institute, 2001. Print.
32. Ghosal, V. Reforming Rules and Regulations: Laws, Institutions, and Implementation. Cambridge, MA: MIT, 2011. Print.
33. Gingrich, G. Managing IT in Government, Business & Communities. Hershey, PA: IRM, 2003. Print.
34. Harati, P., Abhijit C., and Lee, I. Global Perspectives on Small and Medium Enterprises and Strategic Information Systems International Approaches. Hershey, PA: IGI Global (701 E. Chocolate Avenue, Hershey, Pennsylvania, 17033, USA), 2010. Print.
35. Harvie, C., and Boon-Chye L. The Role of SMEs in National Economies in East Asia. Cheltenham, UK: Edward Elgar, 2002. Print.

36. John, P. *Legal Pit-falls for SME Businesses: How to Avoid Them and Minimise Your Legal Risks*. London: Teach Yourself, 2011. Print.
37. Kamel, S. *E-strategies for Technological Diffusion and Adoption National ICT Approaches for Socioeconomic Development*. Hershey, PA: IGI Global (701 E. Chocolate Avenue, Hershey, Pennsylvania, 17033, USA), 2010. Print.
38. Lowellyne, J. *Sustainability Footprints in SMEs: Strategy and Case Studies for Entrepreneurs and Small Business*. Hoboken, NJ: Wiley, 2015. Print.
39. Marshall, S., Wallace, T., and Xing, Y. *Encyclopedia of Developing Regional Communities with Information and Communication Technology*. Hershey, PA: Idea Group Reference, 2006. Print.
40. Mlitwa, N. *IT/ICT Research & Innovations: A Socio-technical Approach*. Cape Town: TVK ENNOVATIONS, 2012. Print.
41. Mohlameane, J. *A Framework for Cloud Computing Adoption: A Case Study for SMEs in South Africa*. 2012. Print.
42. Oyelaran-Oyeyinka, O. *SMEs and New Technologies: Learning E-business and Development*. Basingstoke: Palgrave Macmillan, 2006. Print.
43. Peter, K. *Expanding Opportunities and Building Competencies for Young People: A New Agenda for Secondary Education*. Washington, D.C.: World Bank, 2005. Print.
44. Rappaport, J. *How Does Openness to Capital Flows Affect Growth?* Kansas City: Research Division, Federal Reserve Bank of Kansas City, 2000. Print.
45. Shareef, A. *Proliferation of the Internet Economy: E-commerce for Global Adoption, Resistance, and Cultural Evolution*. Hershey, PA: Information Science Reference, 2009. Print.
46. Attewell, P. (1992). Technology diffusion and organizational learning – the case of business computing. *Organization Science*, 3(1), 1–19. Avgerou, C. (2008).

- State of the art information systems in developing countries: a critical research review.
 Journal of Information Technology, 2(3), 133–146.
47. Azam S., (2015), Diffusion of ICT and SME Performance, Arch G. Woodside (ed.) *E Services Adoption: Processes by Firms in Developing Nations*. Emerald Group Publishing Limited, pp.7 - 290
48. Azam, M. S., & Lubna, N. (2008a). Concerns and constraints of e-commerce: An investigation into the service industry and manufacturing industry in Bangladesh. In D. S. Chundawat, K. Saxena & S. S. Bhadu (Eds.), *Managing Global Competition: A Holistic Approach* (pp. 101–121). Delhi: Macmillan India Ltd.
49. Bandura, A. (2006). *Social foundations of thought and action: A social cognitive theory*. NJ: Prentice Hall, Englewood Cliffs.
50. Bazeley, P. (2007). *Qualitative data analysis with NVivo*. Thousand Oaks, CA: Sage.
51. Denzin, Norman K. and Yvonna S. Lincoln (editors). *Strategies of Qualitative Inquiry*. Sage Publications: London, 1998. Print.
52. Doolin, B., McLeod, L., & Watton, M. (2003). Internet strategies for establishing retailers: Four New Zealand case studies. *Journal of Information Technology Cases and Applications*, 5(4), 3–19.
53. Francis, Leslie J, Marian Carter, and Diane Drayson. *The Word for All God's Family: Projects on Scripture*. Leominster: Gracewing, 2006. Print.
54. Heeks, R., 2009. Information Systems and Developing countries: Failure, Successes and Local Improvisations, *The Information Society*, P. 101-112. New Delhi, India: Excel Books, 2007. Print.
55. Kotler, Philip, and Kevin L. Keller. *Marketing Management*. Harlow: Pearson Education, 2012. Print.

56. Manochehri, N., R. Al-Esmail and R. Ashrafi. Impact of Information and Communication Technologies (ICT) on Enterprise: The Engine of Growth. Westport, Conn: Praeger, 2007. Print.
57. Mathieson, K., Peacock, E., & Chin, W. W. (2001). Extending the technology acceptance model: The influence of perceived user resources. *The DATA BASE for Advances in Information Systems*, 32(3), 86–112.
58. Oliveira, T and Martins, M, F. “Literature Review of Information Technology Adoption Models at Firm Level” *The Electronic Journal Information Systems Evaluation* Volume 14 Issue 1 2011, (pp110121), available online at www.ejise.com
59. Orlikowski, W. J., & Baroudi, J. J. (2001). Studying information technology in organizations: research approaches and assumptions. *Information Systems Research*, 2(1), 1–28.
60. Porter, M. E. (1998). *The Competitive Advantage of the Nation*. New York: Palgrave.

APPENDIX

ICT adoption in SMEs in Arab States and their impact on the Economic development: Country Case Studies of UAE and Jordan

Thank you for agreeing to participate. It will only take a few minutes to complete. All of your answers are private and confidential.

*1 Please mark the business sector your firm belongs.

<input type="radio"/> Manufacturing (1)	<input type="radio"/> Restaurants, Hotels and Boarding Houses(7)
<input type="radio"/> Construction (2)	<input type="radio"/> Transport and Storage(8)
<input type="radio"/> Wholesale/Retail (3)	<input type="radio"/> Communications(9)
<input type="radio"/> Import & Export-Consumer non-durable goods(4)	<input type="radio"/> Financing and Insurance(10)
<input type="radio"/> Import & Export – Consumer durable goods(5)	<input type="radio"/> Real Estate(11)
<input type="radio"/> Import & Export – Miscellaneous goods(6)	<input type="radio"/> Business Services(12)
<input type="radio"/> Other, please specify	

*2 Some persons engaged in your firm (including overseas operations).

<input type="radio"/> Less than ten people (1)
<input type="radio"/> 10-49 people (2)
<input type="radio"/> 50-100 people (3)
<input type="radio"/> Over 100 people (4)

*3 Some years your firm has been in business.

<input type="radio"/> Less than three years (1)
<input type="radio"/> 3-7 years (2)
<input type="radio"/> More than seven years (3)

*4 **Total revenue/sales in the last fiscal year.**

* **2. USING PCs, Please mark the extent to which your firm uses software for the following tasks.**

	Not at all (1)	Very little (2)	Sometimes (3)	Often (4)	Very often (5)	N/A (6)
Word processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Spreadsheet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Database Management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Presentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Computer security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Finance/Accounting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Purchase/Sales & Order processing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HRM/Training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*

How much value do you think PCs have added to the following aspects of your business?

	No Value Added (1)	Little Value added (2)	Some Value added (3)	Significant Value added (4)	High-Value-Added (5)
Improving operational efficiency/reducing costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving customer services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing sales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exploring new opportunities for growing business	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing competitive advantage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*

3. USING THE INTERNET Please mark the extent that your firm uses the Internet for the following purposes.

	Not at All (1)	Very Little (2)	Sometimes (3)	Often (4)	Very Often (5)	N/A (6)
Email	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online sourcing of general information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online ordering from suppliers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online payments to suppliers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online sales to customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online receipt of payments from customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Government information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Provision of information/feedback to customers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Software downloads	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
E-banking services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Video conferencing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* **How much value do you think the Internet has added to the following aspects of your business?**

	No Value Added (1)	Tiny Value added (2)	Some Value added (3)	Significant Value added (4)	High Value-added (5)
Penetration into new markets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prompt response to market changes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Exploitation of network opportunities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving operational efficiency/reducing costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creation of new products/services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* **Does your firm have a digital certificate?**

YES (1)

NO (2)

Do you think that using the Internet more would help improve the business of your firm? If so, how?

* **4. ICT – WEBSITE USAGE Does your firm have a Website?**

YES(1)

NO(2)

*

5. NOT USING A WEBSITE How important are the following reasons for your firm not having a Website?

	Not important (1)	Little significant (2)	Important (3)	Very important (4)	Highly significant (5)
Business partners do not have a Website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online transaction is not common in the industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online marketing is not common in the industry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There are concerns about Internet security	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Maintenance is difficult and expensive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Business partners and customers are not using the Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Competitors are not using the Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is costly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It is not really needed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is difficulty finding trained personnel to use it	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There is no one to train the personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Do you think that creating a Website would help improve your business?

YES(1)

NO(2)

What would motivate or push you to create a Website?

*** How useful would the following types of Government support be to your firm for creating a Website?**

	Not useful (1)	Little useful (2)	Not sure (3)	Very useful (4)	Highly useful (5)
Holding training workshops/seminars	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Investing in ICT infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Building the right legal and regulatory framework to ensure security, trust, privacy and consumer protection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing tax incentives for ICT investments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing more information on the costs and benefits of using ICT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing ICT adoption consulting services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Subsidising ICT training	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*

6. USING A WEBSITE Please mark the extent that your firm uses its Website for the following purposes.

	Not at All (1)	Very Little (2)	Sometimes (3)	Often (4)	Very Often (5)	N/A (6)
Providing information on the firm's products and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Handling of business enquiry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Receiving online orders	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Receiving online payments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to government information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Delivery of products	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After sales services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collection of feedbacks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online marketing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Knowledge management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other, please specify	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* **How much value do you think your Website has added to the following aspects of your business?**

	No Value Added (1)	Tiny Value added (2)	Some Value added (3)	Significant Value added (4)	High Value-added (5)
Availability of online transaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Strengthening the relationships with business partners	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improve productivity through service integration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Creation of new business models	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Streamlining of the business, promoting flexibility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

* **Is your firm's Website/web page integrated with the company's database?**

YES(1)

NO(2)

* **Is your firm's Website/web page integrated with your business partners' database?**

YES(1)

NO(2)

* **7. OVERALL ICT USAGE Overall, to what extent do you feel that your firm currently uses ICT?**

Not at all (1)

Very little(2)

Sometimes(3)

Often(4)

Very often(5)