

**Perceptions on the Use, Adoption, and Value of
Information and Communication Technologies
among Small and Medium-sized Enterprises in Lagos
and Neighboring States in Nigeria**

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ABSTRACT

The aim of this study is to investigate the perceptions of managers on the use, adoption and value of Information and Communication Technologies among Small and Medium-sized Enterprises in Lagos and neighboring states in Nigeria. Research has shown increase in the demand of e-business technologies by business firms in the developing countries especially in Nigeria. For businesses to remain relevant in this current technologically advanced environment, there is a need to adopt and use ICT. Survey is used to identify and evaluate the perceptions of managers on the use, adoption, value and factors limiting ICT adoption among SMEs. As one of the instruments for data collection, questionnaire was used to survey 150 managers of different business firms, a total of 102 copies of questionnaire were completed and returned for the study. Both the review of related literatures and the empirical findings gave more insights into ICT adoption, use and value among SMEs. The study offered policy recommendations which will encourage SMEs to adopt ICT.

Keywords: Information and Communication Technologies, Small and Medium-sized Enterprises, Adoption, Lagos, Nigeria

ÖZ

Bu araştırmanın amacı, Nijerya’da Lagos ve çevresindeki eyaletlerde bulunan Orta ve Küçük ölçekli İşletmelerde Enformasyon ve İletişim Teknolojilerinin kullanımı, kurulumu, ve değeri hakkında yöneticilerin algılarını araştırmaktır. Araştırmalar, Nijerya gibi kalkınmakta olan ülkelerdeki işletmelerin gittikçe artan bir şekilde e- işletme teknolojilerine geçmeyi talep ettiklerini göstermektedir. Bu teknolojik rekabetin kızıştığı ortamda, tüm işletmelerin enformasyon ve iletişim teknolojilerini takip etmeleri ve kullanmaları gerekmektedir. Orta ve Küçük ölçekli İşletmelerde Enformasyon ve İletişim Teknolojilerinin kullanımı, kurulumu, ve değeri hakkında yöneticilerin algılarını araştırmak üzere bir anket oluşturulmuş ve veriler değerlendirilmiştir. Anket, çeşitli sektörlerden 150 yöneticiye gönderilmiş, 102sinden tamamlanmış olarak veri alınmıştır. Literatür taraması ile araştırmadan elde edilen empirik bulgular örtüşmekte ve Orta ve Küçük ölçekli İşletmelerde Enformasyon ve İletişim Teknolojilerinin kullanımı, kurulumu, ve değeri hakkında değerli gözlemler içermektedir. Bunlar ışığında sektörel ve şirketler bazında bilişim politikaları şekillendirilebilir.

Anahtar sözcükler: Enformasyon ve İletişim Teknolojileri, Küçük ve Orta ölçekli İşletmeler, Benimseme, Lagos, Nijerya.

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LIST OF ABBREVIATIONS / SYMBOLS

Airtel	An Indian service provider operating in Nigeria
B2B	Business to Business
B2C	Business to Consumer
B2G	Business to Government
Blogs	It allows users to post updates on the Web.
C2B	Customer to Business
C2C	Customer to Customer
Etisalat	One of the largest Middle East service provider operating in Nigeria
GIC	Global Competitive Index
GDP	Gross Domestic Products
GNP	Gross National Products
Global com	Indigenous network provider in Nigeria
ICT	Information and Communication Technologies
MTN	Mobile Telephone Network
OECD	Organization for Economic Co-operation and Development
PHCN	Power Holding Company of Nigeria
SITC	Standard Industrial Trade Classification
SME	Small and Medium Enterprises
UNCTAD	United Nations Conference on Trade and Development

Chapter 1

INTRODUCTION

1.1 Background of the Study

The use of ICT in some developing countries, especially in Africa, was narrowed to e-mail and people perceived it as an application used for only e-mail services. Majority of users were not aware of other web-based applications that could be fully used to enhance business activities. Most commonly, African SMEs lack the needed driving resources including: the collective knowledge, skills, and other necessary resources which enable businesses to grow and add value to their goods and services in order to meet the high demands of their customers. A further intricacy which limits African SMEs from performing economically better is that they are often labeled as a low quality product producers and lack technological requirements to produce quality products and to join global supply-chain networks.

The assimilation and integration of ICT in business enterprises have been recognized as a major factor in the growth of SMEs. There is poor linkage networking the SMEs which limits their level of ICT adoption as well (Chavez et al., 2000, Kula and Tatoglu, 2003).

There are many perceived factors limiting ICT adoption and use on SMEs in the developing countries and they include: poor security measures (Davis et al, 2001), ICT/SMEs mismatch in terms of firm size (McDonagh and Prothero, 2000),

unsuitability to business operations (OECD, 2002, Love et. al, 2001), lack of managerial know-how and low level of skills of employees (Woherem (1993), cost of developing and maintaining ICT (Folorunsho et al. 2006), unreliable service providers (Kuda and Brooks, 2000),and lack of adequate infrastructure especially in energy supply (Agyeman, 2007).

Studies have been also carried out in manufacturing industry, internet banking, and e-business adoption in electronic industry to find out the extent of ICT adoption and use (Cooper and Burges, 2000; Kannabiran and Narayanan, 2005; Parish et al 2002).

However, most research carried out on ICT adoption did not ascertain the perceptions of managers on the use, adoption and value of ICT among SMEs in Nigeria. In fact, they have not made suggestions on the role government can assume to encourage adoption and use of ICT among SMEs in Nigeria. Research questions were formulated to evaluate the perceptions of managers on the use, adoption and value of ICT in their businesses.

1.2 A Review of Nigeria's Demographic and Regional Structure

Nigeria is the most populated country in Africa with more than 170 million people and a land area of 924,000 square kilometers (National Population Census of Nigeria 2014). It consists of 36 states and a total of 774 Local Government Areas including the Federal Capital Territory. The country is agrarian and has a tropical climate with a variety of ecological belts, ranging from the forest in the South to the Sahel Savanna in the North. The country is also blessed with natural resources like minerals and oil deposits. Nigeria is divided into three major ethnic groups namely: Hausa/Fulani, Yoruba and Igbo.

Basically, the regional structure of Nigeria is divided into two different parts, urban and the rural areas and each of these two areas show distinct cultural variations and different opportunities. The rural areas are inhabited by 70 percent of the country's population with large mineral deposits. The communities are subsisting under poor conditions devoid of opportunities and options, within an environment lacking in basic facilities like roads, water supply, sanitation, energy and communication (FMARD, 200)

1.2.1 Nigeria's Current Economic Review

Nigeria expanded its Gross Domestic Product from 1990 to 2010, resulting in an 89% increase in the estimated size of the country's economy. As a result, the country now boasts of having the largest economy in Africa, with an estimated nominal GDP of \$510 billion, surpassing South Africa's \$352 billion (African Economic Outlook 2014). Economic performance is expected to improve especially in the non-oil sectors which comprise agricultural crop production, manufacturing and service sectors.

Risks to Nigeria's economic growth are the sluggish recovery of the global economy, security challenges in the northeastern part of the country, continual agitation for resource control in the South/South - Niger Delta region. All these hampered economic growth and sustainable growth of small and medium enterprises in Nigeria. The country continued to be weighed down by inadequate infrastructure, limited production and distribution of energy supply, poor transportation system and many other challenges. Negative growth of the oil sector may also continue to drag down the overall growth until a lasting solution is found for oil theft and weak investment in exploration due to uncertainties in the oil

sector. Ongoing government reform aims to deregulate power and oil sectors which are expected to attract ambitious investments, in all the sectors of the economy.

In the financial sector, commercial banking system and the capital markets are the major financial institutions dominating the economy. Financial institutions, especially banks, have ensured their capacity and readiness to grant loans to promising investors willing to invest in small and medium-sized enterprises for the economic improvement of the country. Youth unemployment and poverty remains one of the major challenges threatening the economy. SMEs are critical in this respect as potential employers of first resort.

1.3 Research Aim and Objectives

The purpose of this research is to investigate the perceptions of managers on the use, adoption, and value of ICTs among SMEs in Lagos and neighboring states in Nigeria.

According to existing scholarship, there are many perceived factors limiting ICT adoption on SMEs in the developing countries and they include: poor security measures (Davies et al, 2001), ICT/ SMEs mismatch in terms of firm's size (McDonagh and Prothero, 2000), unsuitability to business operation (OECD, 2002, Love et. al, 2001), lack of managerial know-how and low level of skills of employees (Woherem (1993), cost of developing and maintaining ICT (Folorunsho et al. 2006), unreliable service providers (Kuda and Brooks, 2000), lack of adequate infrastructure especially in energy supply amongst others, limits ICT adoption(Agyeman, 2007). Other related studies carried out in SMEs were in manufacturing industry, internet banking, and e-business adoption in electronic

industry (Cooper and Burges, 2000; Kannabiran and Naranyan, 2005; Parish et al 2002).

The major goal of this research is to investigate the perceptions of managers on the use, adoption and value ICT has added to firms in Lagos and neighboring states in Nigeria, and the same time, ascertain the perceptions of managers on the factors that limit ICT adoption on SMEs. Finally, based on the findings, conclusion shall be made, towards effective policy recommendations, including the importance of government role in reducing the barriers for ICT adoption.

1.4 Research Questions

In order to observe the perceptions on the use, adoption, and value of ICTs among SMEs in Lagos and neighboring States in Nigeria, the below research questions are formulated:

1. How do the use, adoption and value of ICT change according to (i) business sector, (ii) firm age and (iii) firm size?
2. What are the perceived factors limiting ICT adoption?
3. To what extent do government reforms help to motivate SMEs to adopt ICT?

1.5 Significance of the Study

This research is an attempt to study the perceptions of managers on the use, adoption and value of ICT among SMEs in Lagos and other neighboring states in Nigeria. The research will help to identify the challenges of adopting ICT on enterprises and suggest ways to reduce them. The study will serve as a reference material for students and other researchers who will conduct research on a similar study. Recommendations from the study will assist in making informed policy based decisions that will serve to minimize the challenges or barriers of ICT adoption.

1.6 Organizational Structure

The study is divided into five chapters. Chapter one involves introduction to ICT and SMEs in Nigeria. Chapter two comprises the literature review, on the use, value and adoption of ICT among SMEs. Chapter three gives detailed information about the methodology adopted in the study. Chapter four presents the data on managers' perceptions on the use, adoption and value of ICT on SMEs, while chapter five comprises research conclusions, limitations and policy recommendations.

Chapter 2

LITERATURE REVIEW

2.1 Information Communication Technology (ICT)

Different scholars defined ICT from different perspectives. Arguing from different academic and literature standpoints, ICT is a wide range of computerized information and communication systems which store, process and transmit information. It is any technology used to support information gathering, processing, distributing and use (Beckinsale and Ram, 2006:86).

In the word of Porter and Millar (1985), ICT was viewed as all forms of technologies and products of wide range of software, hardware, telecommunication and information management techniques, applications and devices used to create, produce analyze, process, package, distribute, retrieve, store and transmit information electronically in a digital form. These include computers, email, internet, social medial networking and other wireless communication devices.

2.2 Small and Medium Enterprises (SMEs)

According to OECD (2004), Small and Medium Enterprises (SMEs) was described as business firms with employees less than 250, engaged in production activities and distribution of goods and services. It was seen as a business enterprise with less than 10 employees were called micro enterprises, firms with 10 to 49 were called small enterprise, and firms with 50 to 250 employees were called medium sized enterprises (Kapurubandara& Lawson, 2006). The SMEs have been the backbone

of most of the developed and developing countries. The importance of the SMEs in the development process cannot be overemphasized.

2.3 Electronic Businesses: A Historical Review

In the late 1970s, a pharmaceutical firm called Baxter Healthcare started an old form of electronic business to business (B2B) by using telephone-based modems which allowed hospitals to give orders and receive supplies from Baxter (Rayport and Joworski, 2002). This model was later developed in 1980s into a PC-based system and it swiftly spread through developed economies. Afterwards, the internet market was upgraded into Electronic Data Interchange (EDI) which conducted electronic transactions across individual networks. France was the first to deploy “the Minitel”, which was a large-scale digitally enabled transaction system (Rayport and Joworski, 2002). It was widely adopted and used during the period. E-commerce started around 1995 when firms like, Amazon, Google, Yahoo and e-Bay came into existence (Rayport and Joworski 2002).

For the purpose of this study, the following concepts shall be discussed:

2.3.1 E-Business

E-business improves competitiveness of the firm. E-business spreads information and communication technologies through the entire firm, which strengthens the relationship between firms and their customers. According to Damanpour (2001), e-business is any activity that transforms internal and external business activities to create value and exploit market opportunities. Laudon and Laudon (2002), observe that e-business makes use of internet and other digital technologies for communication, coordination and management of firms. Rayport and Joworski

(2002), state that e-business is the digital enablement of transactions within a firm, through information systems.

2.3.2 E-Commerce

Rayport and Joworski (2002) observe that e-commerce is the use of internet and the web to transact businesses and to enable digital commercial transactions between business firms and customers.

Different scholars have argued about the difference between e-commerce and e-business. Some argue that e-commerce covers all the organizational internet activities which include exchanges in external transactions while e-business is only used within the firm's internal operations (Rayport and Joworski, 2002).

2.4 Features of E-Business and E-Commerce

E-commerce technologies and their business significance will be compared to traditional systems of business transactions. Rayport and Joworski (2002) identified these features:

Ubiquity: It is available everywhere and any time. It opens the market from being limited to a physical space and makes it possible to purchase from personal computers (PCs) and other technologies supported by internet connections. This feature reduces both transaction costs and energy required to transact in the market space.

Global Reach: It is a commercial market which can be reached by almost everybody in the world with the help of internet connection.

Universal standard: This is the standard of conducting e-business which is shared among world nations whereby price and quality of products are ascertained by all customers irrespective of their locations.

Richness: This is the huge and complex content of the message or information which can be obtained in the electronic business. The message or the information is used to find out about the quality and value of a product. Traditional systems enable more information to be gathered than electronic commerce systems because of the physical interaction between the merchants and the customers.

Interactivity: This feature allows two way communications between merchants and consumers and creates opportunity to ask questions about product and its features.

Information density: The amount of available information to suppliers and customers.

Personalization and customization: The messages which target individual consumers and to changing internet websites contents and products to suit their preferences. In contrast, it will be difficult, time consuming and costly to do personalization and customization.

2.5 Forms of E-Commerce

Rayport and Joworski (2002), OECD (2000) and Vaithianathan (2010), summarized major forms of E-Commerce as follows:

Business to Business (B2B): Involves internet transactions between two or more business firms where bulk goods are transacted electronically (Rayport and

Joworski, 2002). This form of electronic business is the fastest way to conduct large volume of complex purchasing transactions in supply chains (Vaithianathan, 2010).

Business to Consumer (B2C): Involves business transactions between business firms and individual customers, example Amazon.com, AliExpress etc (Rayport and Joworski, 2002). A good number of consumers learn and know about goods and services of firms online before purchasing.

Consumer to Consumer (C2C): Involves web-based platforms where consumers sell their products to other consumers with the help of online sites such as e-Bay.com (Rayport and Joworski, 2002).

Peer to Peer (P2P): Involves sharing files such as music and other online applications without going through intermediaries (Rayport and Joworski, 2002).

Mobile Commerce (M-Commerce): M-Commerce is a handheld through digital devices designed to transact businesses electronically. Devices such as phones, personal computers and other wireless devices can be used to transact businesses electronically.

2.6 E-Marketing: Promotion and Advertising Tools

According to Rayport and Sviokla (1994), E-marketing transformed and moved shopping activities from market place to the market space. Traditional marketing and promotional tools have been redesigned to adapt to market space medium. The market space is seen as important and growing component despite the competition from traditional forms of commerce.

Hoffman, (1996) outlined a model for marketing in mass media which highlights marketing communication in media related environment, complemented by changes which strengthens advertising activities. Hoffman (1996) highlighted e-marketing trend as below;

- The internet is both a promotional and a distributional channel where advertising and sales can take place concurrently.
- Advertising costs on the internet are lower than in the traditional media.
- The internet provides a higher rate of information dissemination.
- The internet has a worldwide audience not limited by physical boundaries.
- The internet supports interactivity.
- The internet promotes consumer self-selection and offers a level of self-control.
- The internet adds value in terms of providing a rich mix of multimedia, including audio, visual, and computer-mediated environment.

Strauss and Frost (2001:545) defined e-marketing as the use of electronic data and applications for planning and executing the conception, distribution and pricing of ideas, goods and services to create exchange of value that will satisfy customers.

Reedy and Schullo (2004:16), argue that e-marketing is a process that improves business activities using internet facilities.

2.6.1 E-Marketing Tools

Some old e-business technologies that were used before advancing to social media marketing were e-mail, rich media and banner ads. Although e-marketing tools are applied differently, they have different advantages in the market. They are used to promote, distribute and sell goods and services. According to Banner (2010),

banners are divided into three parts: static, cremation and flash. They contain graphics and text used in promoting firm's products. Electronic mailing is one of the lest e-marketing tools which can communicate pictures, videos and sounds, personalized for specific customers (Kotler and Armstrong, 2008). Another e-marketing tool is rich media which is a variety of interactive and visual internet advertising and can be more influential and effective than banner ads.

2.6.2 Social Media Marketing

Most companies and firms resorted to the use of social media because of its influence in the world. Kaplan and Haenlein (2010) described social media as an internet based application which runs on web 2.0, and is used for interactions between business parties. It has multimedia tools involving visual sound, picture and graphic effects which allow interactivity and other important communication features. Facebook, Twitter, Blogs, Google and YouTube are good examples of social media (Kaplan and Haenlein, 2010). Weinberg (2009) maintains that marketing with social media requires adopting visual and graphic applications that allows two parties to interact effectively.

2.7 Benefits of ICT Adoption on SMEs

Studies have been conducted to investigate the benefits of Information and Communication Technologies on Small and Medium-sized Enterprises. ICT has brought significant benefits across a range of business operations. Martin and Matlay (2001) argue that adoption and implementation of new technologies are important to the growth of small businesses. This view is supported by Chaston et al. (2001) who highlighted the factors affecting ICT adoption on small businesses in the United Kingdom and observed that, small businesses that adopt ICT will develop new knowledge and compete favorably. Others maintained that the major

benefits of ICT adoption and usage are: low costs and low risks involvement, efficient relationships between customers and suppliers, and the increase in distribution and marketing of goods and services. These findings were supported by many other studies (Abell and Lim, 1996; Poon and Swatman, 1997; Ramsey et al., 2003; Quayle, 2002) where the benefits of ICT adoption are low administrative costs, low production costs, low lead costs and improvement in the quality of market information. In addition to the benefits of ICT adoption are observed to be low administrative costs, low production costs, low lead costs and improvement in the quality of market information. Firms can effectively improve business functions by improving levels of business communications and by encouraging competition and reduce costs of transaction (Stockdale and Craig, 2004).

Napier et al. (2001) argued that by using e-commerce, merchants can access narrow market segments that are widely distributed over distant locations while customers can benefit from accessing global markets where there exist much larger products from variety of merchants. The benefits of ICT have motivated firms to adopt ICT, as highlighted by United Nations (2007). There include: improvements in the production quality of products, enhanced coordination of activities and connecting firms faster to external contacts, improving inventory control management, reducing information related inefficiencies and facilitating quick communication within and outside the firm, reducing geographical barriers and increasing the enabling globalization, enabling new methods of business transactions and expanding the customer databases.

Lal, (2005) also observes that ICT increases efficiency of SMEs and creates strong relationships between firms and their customers by facilitating effective

communication. Golding et al. (2008) highlighted the importance of ICT in the digital economy through innovative internet services. Ongari, (2009), argued that ICT adoption will change the existing operational culture and structure of a firm, and stimulate firm's competitiveness. Therefore, for firms to grow and compete successfully, they must adopt advanced ICT's which will enhance their response to business challenges and sell their product in the global market.

2.8 Factors Affecting ICT Adoption and Use among SMEs in Developing Countries

In the developing countries, SMEs are a major source of income and they are regarded as the strong hold for entrepreneurs and other employers (Mutula and Brakel, 2007). SMEs dominate the economies of several countries. However, it is probably more difficult for SMEs' management to recognize the need for change. The following factors affect the adoption and use of ICT among SMEs in developing countries:

2.8.1 Cultural Factors

Most SMEs in developing countries possesses organizational cultures that support the discussion of new and innovative ideas which are related to ICT (Mutula and Brakel, 2007). Discussions on new and innovative ideas within SMEs have positive influence on managers in terms of developing and adopting new ICT applications (Apulu and Latham, 2009). Hoffman and Klepper (2000) state that a culture in which ideas and innovations with respect to ICT are freely shared can potentially help to strengthen the firm inclination towards new ICT adoption. Furthermore, Mehrtens et al. (2001) state that a favorable organizational behavior towards systems innovation increases the adoption and use of ICT technologies. In addition, Olutimayin (2002) observed that technology itself is part of culture. The existence

of a technological change presupposes cultural acceptance. Therefore, if a certain technology is not adopted in a society, that technology would not form part of the society's culture and can greatly affect the culture of that society (Olutimayin, 2002). Societal culture is therefore an important determinant for ICT adoption and use in developing countries (Kapurubandara and Lawson, 2006).

Despite the fact that SMEs play important role in developing country's economies, ICT adoption on SMEs are still relatively low when compared to developed countries (Alam et al., 2007).

Factors such as owner/manager characteristics, the role of top management, firm characteristics, costs and return on investment, lack of adequate telecommunication infrastructures, such as poor internet connectivity, lack of fixed telephone lines for end-users, dial-up access and the underdeveloped state of the Internet Service Providers (ISPs) have been identified by Kapurubandara and Lawson (2006) as factors that hinder SMEs from adopting and use ICT in the developing countries. Kunda and Brooks (2000) focused on the issue of systems infrastructure deficiency and lack of applications problems.

2.8.2 Top Management Attitudes

Top management attitudes play a vital role towards the adoption of ICT in organizations and it is regarded as a factor that affects the adoption and use of ICT among SMEs in developing countries. The top management of any firm is responsible for determining the appropriate culture, vision and policy of the firm (Singh, 2008). In SMEs, managers play an important role in decision making and in most cases they are usually the owners of the businesses. According to Grover

(1993), Premkumar and Ramamurthy (1995), Crook and Kumar (1998) and Tarafdar and Vaidya (2006), a proactive approach and active championship on the part of top managers can lead to the successful adoption of ICT. Yap et al. (1992), advocate that management involvement is crucial to the success of ICT in SMEs. Sarkar (2008) argues that support from top management or the owner is a precondition for successful ICT adoption in SMEs. Matlay and Addis (2003) also comment that the decision to adopt ICT by SMEs is likely to be made by the owner. Similarly, Thong (1999) argued that support from the Chief Executive Officer (CEO) would positively influence the likelihood of technology adoption. MacGregor (2004) as well as Xu and Quaddus (2004) indicated that the CEO's educational level is significantly associated with the decision for technology adoption. According to Tarafdar and Vaidya (2006), leaders can influence the extent of ICT adoption by clearly defining the role of the new technology. Payton (2000) ascertained that top management often provides the forward motion for the initiation of technology projects. Top management play an important role in guiding and completing projects relating to ICT adoption, by providing resources for the purchase of the infrastructures required for the new ICT. This implies that a leader's ability in providing resources for ICT initiatives would positively affect an organization's inclination to adopt ICT.

2.8.3 Lack of Awareness of ICT Benefits

Iacovou et al. (1995) confirms that an owner's lack of awareness of the technology and of its perceived benefits is a major barrier affecting ICT adoption and use. Similarly, Julien and Raymond (1994) agree that the owner's level of assertiveness in decision making would affect the adoption of ICT. However, in most cases, Akkeren and Cavaye (1999) state that SME owners are only concerned with return

on investments hence are reluctant to make substantial investments when short-term returns are not guaranteed, especially within the highly uncertain context of developing country economies.

2.8.4 Lack of Managerial Skills

Moreover, it is the skill and enthusiasm of the owner/manager that typically drive the business forward and shape the character of investment decisions (Kapurubandara and Lawson, 2006; Dyerson et al., 2009). According to Dyerson et al. (2009), most SMEs lag behind large firms in their use of ICT both operationally and strategically. Caldeira and Ward (2002) state that the average SME is characterized by a lack of managerial skills to conceive, plan and implement ICT, and tends not to update technology too readily. Pool et al. (2006) and Dyerson et al. (2009) indicate that large firms are usually fast to adopt ICT whereas the pace of adoption amongst SMEs is much slower. Therefore, it is apparent that owners/managers, who are responsible for creating, shaping and developing the business of an SME, play a key role in the adoption and implementation of ICT in their businesses. Sarkar (2009) confirms this by saying that the characteristics of top managers are crucial in determining the innovative attitude of small businesses.

2.8.5 Lack of Financial Resources

Lack of finance is a factor which affects the use and adoption of ICT among SMEs in developing countries. Finance is viewed as a critical element for the development of SMEs (Cook and Nixon, 2000). Dyerson et al. (2009) advocates that SMEs generally struggle with limited resources like finance, skills and time. Levy (1993) emphasizes that the limited access to financial resources available to smaller enterprises, as compared to larger firms, and the consequences for SMEs' growth and development are factors that affect ICT adoption and use among SMEs. SMEs

also have to cope with competing demands and are often cash poor. Arendt (2008) identifies factors such as the costs of ICT equipment and poor networks, as barriers to ICT adoption and use among SMEs.

2.8.6 Lack of Human Resources

In many SMEs, knowledge, expertise, and time are scarce. SME managers spend a great deal of their time trying to stretch their firms' limited resources as far as possible. Pool et al. (2006), state that allocating scarce resources to a new initiative such as ICT requires a serious commitment. Priem and Butler (2001) suggest the need for SMEs to have a combination of resources and capabilities in order to have some sort of competitive advantage. An SME can set itself apart from its competitors if it decides to invest in ICT as this will bring about a sustainable competitive advantage. According to Andrade and Urquhart (2009), SMEs that are prepared to integrate ICT applications must overcome both resource and economy of scale challenges.

2.8.7 Lack of Proper Guidance

Furthermore, lack of proper guidance is a factor that affects the adoption and use of ICT amongst SMEs in developing countries. SMEs require proper guidance in making the right choice of technology suitable for their needs (Sharma et al., 2005). Jordan (2002) observed that many SMEs do not have the ability, time or energy to move on to new technology, either due to lack of expertise at their own level or absence of proper guidance, advice and support from stakeholders. According to Jordan (2002), SMEs do not only lack information on the availability and sources of new technology, they also lack a resource base for searching for appropriate partners.

2.9 Challenging Factors Limiting ICT Adoption and use among SMEs

Many factors affecting adoption and use of ICT among SMEs have been indicated above; factors that limit adoption of ICT will be highlighted below:

2.9.1 Unsuitability to Business

Many SMEs may not actively adopt internet in their firms because it may not suit the nature of their business operations (OECD 2002, Dexter et al., 1995, Mills et al., 2001). Business sectors like construction and a few other sectors do not see internet business to be well suited to their business activities (Payton and Beatty, 2000; Shine and Jones, 2001). Research has shown that most businesses are slow and reluctant to implement the use of ICT in their firms because of its unsuitability to their business operations.

2.9.2 Low Employees Skills and Managerial Know-how

Lack of managerial know-how and deficiency in employee's skills are two of the primary reasons why SMEs feel reluctant to adopt ICT. According to Woherem (1993), low ICT skills is one of the most important limitations of ICT adoption and use in the developing countries especially in Africa where more than 50 percent of the population live below the poverty level and would be difficultly accessing internet technologies. The skill deficiencies are not only observed in technical but also at managerial levels (Arendt, 2008). Most SMEs do not consider ICT training as an important aspect of employee's development; thereby feel reluctant to develop employee's ICT skills with the fear of losing them to their competitors (Apulu and Latham, 2009). In contrast, some forward-looking SMEs have already started investing in ICT by sending employees to attend workshops and seminar programs to enhance their ICT skills.

2.9.3 High Cost of Adopting ICT

Folorunsho et al. (2006) identified costs as one of the major challenges that limit ICT adoption and use. Costs of ICT adoption is the total amount of financial resources used to implement and maintain ICT systems. Most SMEs see ICT as costs intensive and thereby prefer using the financial resources for other purposes other than ICT investments (Kunda and Brooks, 2000). Office computers and laptops costs between 400 USD to 1000 USD which most firms may not afford, especially when combined with the costs of maintaining server websites (Rayport and Joworski, 2002).

2.9.4 Unreliable Service Providers

There exist several internet providers and other communication services providers that sell products at low prices in the developing countries but there is not the type of efficient internet services in the developing countries that would facilitate e-commerce activities (Kuda and Brooks, 2000). Although Nigeria has four major service providers which offer communication and internet services, network infrastructure is very poor and SMEs are not guaranteed suitable prices and quality level regarding internet services. The four major service providers in Nigeria include: MTN Nigeria, Global Com, Airtel and Etisalat.

2.9.5 Lack of Security and Trust

Lack of security and trust are other important factors that limit SMEs from adopting e-commerce technologies (OECD, 2004). Lesser known SMEs are at a clear disadvantage in terms of buying confidence compared to large brand names. Before any purchase, online customers evaluate the brand equity of the company, which serves as an indicator of a firm's credibility. Inability to verify the online seller's credential does rank high among reasons for reluctance to buy on-line (OECD,

2002d). Studies have shown that most consumers who make on-line transactions are highly concerned about security and protection of credit related information. As more on-line customers demand secure transaction environment, SMEs are likely to face increasing costs for system protection and security measures (Philips, 2002). Studies have also shown that the main security issues are “viruses and hackers” and they are one of the most important perceived barriers to internet use by firms (OECD, 2002c). These barriers include: uncertainties in the payment of contracts, delivery and guarantee problems.

2.9.6 Inadequate Government Support

Inadequate government support in terms of policy implementations and strategy to support firms create awareness of ICT benefits is another important limiting factor of ICT adoption (Apulu and Latham, 2009; Baro, 2011). Apulu and Ige (2011), state that government laws should be aimed towards creating awareness about the benefits of ICT adoption. Inconsistencies in regulatory policies in the business environment are one of the factors that limits ICT adoption and use (OECD, 2004).

2.9.7 Lack of Infrastructure

Lack of infrastructure is identified as one of the most important factors that limit ICT adoption especially in the area of inadequate power supply (Agyeman, 2007). It has been known that Nigeria has abundance of mineral resources, yet it fails to generate and distribute energy to homes and firms to function (Tallapragada, 2009). Nigeria is one of the largest oil producing countries in the world, yet the supply of gas, and other energy sources remains limited (Baker, 2008). 60% of its citizens cannot enjoy basic facilities and needs which can influence ICT adoption and use when available (Baker, 2008).

Table 1. Challenges to E-Businesses Adoption (Related Literature)

E-commerce is very difficult to implement	Fielding (1996). Quayle (2002)
Human inability to resist change because of the fear of new trend in technology	Van Akkeren and Cavaye (1999), Lawrence (1997).
Satisfaction/Enjoy from the use of traditional methods to sell and communicate	Vankatesan and FMK (2002)
Lack of skills and know-how among employees.	Riquelm (2002), Van Akkeren and Cavaye (1999).
Unsuitability to business organization	OECD (2002), Poon and Swatman (1997) ,Hadjimonolis (1999).
Lack of adequate information about the advantages and benefit of	Lacovou et al (1995), Quayle (2002).
Building security and trust.	Riquelme (2002), Van Akkeren and Cavaye (1999).
Lack of standardized E-commerce system	Tuunainen (1998), Robertson and Gatignon (1986).

Chapter 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter illustrates in detail the research methods employed for the study. It outlines the research design, research approach, data collection techniques, questionnaire development, and data analysis.

3.2 Research Design

Research design is a framework or plan which guides a researcher in collecting and analyzing data for a research study (Baridam, 1991). It is regarded as a model of proof which allows the researcher to draw inferences concerning the relationships between variables under investigation (Machunas. and Machunas, 1978). Quantitative research design is used in this study.

3.3 Research Approach

To accomplish the research objectives, a deductive statistical approach was employed in this study by following the distinctive human characteristics of moving from “known to unknown” (Spangler, 1986). Deductive approach is a research philosophy which allows the researcher gather theories that have been identified by other researchers before collecting empirical data to justify the variables. It is also used to justify a framework.

3.4 Data Collection Technique

There are three main data collection techniques according to Bryman and Bello, (2007), namely: interviews, questionnaires and observations. This research work made use of questionnaire to gather primary data for the study. Babbie (1992) observed that questionnaire is used to describe the characteristics of a large population and make sampling possible. Questionnaire is used to design appropriate questions for the respondents and different types of questions can be collected (Saunders et al., 2012). The research questions employed in this study was extracted from a published survey on “Impact of ICT on SMEs case of Rwanda”.

3.5 Questionnaire Distribution

A total of 150 copies of the questionnaire were independently distributed to SME managers located in Lagos, Abeokuta, and Ibadan. All managers refused to fill the questionnaire at the first point of contact but asked to return within seven working days to collect the filled questionnaire. A total of 102 copies of questionnaire were completed and returned for the study. The overall response rate was 68%. A total of 11 questions were asked, the first 6 questions were demographic questions while 5 others were the main questions investigating perceptions of managers on the use, adoption and value of ICT among SMEs.

3.6 Data Analysis

To accomplish the research goals, analysis of data collected for the study was very important since data are in disarray and might not convey an insightful meaning to the reader. Descriptive statistics was used to analyze the data collected with the questionnaire and to generate frequencies and percentages of the demography. Cross tabulation analysis was used to investigate the extent of value and usage of

ICT adoption. Each of the limiting factors of ICT adoption was investigated with the demography.

Chapter 4

ANALYSIS AND DISCUSSION OF FINDINGS

4.1 Demographic Cross-Tabulation Analysis

The essence of employing a cross tabulation techniques in research is to enable the researcher carry out sound and reliable comparison that measures a relationship between two variables. It is a statistical instrument or tool that are mostly used to analyze categorical data. Categorical data in this sense are data, which are put in different categories that are mutually exclusive from one another.

For the purpose of this research, an investigation would be carry out, to measure and compare the relationship between what firms said to question using ICT would increase the value added and the business sector, firm's maturity and firm's size.

From Table 2 below, the row depict the usage of ICT and how it would increase the value added to a firm, while the column stage the impact of it on the business sector, and thus the total impact on the firms. Looking at the firms with the great value added in the table, it was discovered that, using ICT would increase the value added with about 30.0% for communication, 23.3% for business service and financial & insurance, 10.0% for construction and 6.7% for restaurant and manufacturing sector.

Table 2. Impact of ICT Usage According to Business Sector

		VALUE OF ICT ON BUSINESS FIRM CROSSTABULATION										Total
		Manufacturing	Construction	Wholesale/Retail	Restaurant/Hotel	Business Service	Communication	Hospital	Financing and insurance	Transport and Storage	Import and Export	
Extend of	No Value	0	1	3	0	0	0	0	0	0	0	4
Value of		0.0%	25.0%	75.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
ICT on	Little	0	0	3	0	0	0	3	0	0	0	6
Business	Value	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	50.0%	0.0%	0.0%	0.0%	100.0%
Firms	Some	2	5	6	4	0	0	5	0	3	0	25
	Value	8.0%	20.0%	24.0%	16.0%	0.0%	0.0%	20.0%	0.0%	12.0%	0.0%	100.0%
	Significant	8	1	1	5	5	2	2	4	4	5	37
	t Value	21.6%	2.7%	2.7%	13.5%	13.5%	5.4%	5.4%	10.8%	10.8%	13.5%	100.0%
	Great	2	3	0	2	7	9	0	7	0	0	30
	Value	6.7%	10.0%	0.0%	6.7%	23.3%	30.0%	0.0%	23.3%	0.0%	0.0%	100.0%
Total		12	10	13	11	12	11	10	11	7	5	102
		11.8%	9.8%	12.7%	10.8%	11.8%	10.8%	9.8%	10.8%	6.9%	4.9%	100.0%

From Table 3 below, which investigates the relationship between what firms said to question using ICT would increase the value added to firms and the business maturity (age) of the firm. It was discovered that using ICT under great valued added, there would be an increase of about 33.3%, and 53.3%, between the age group of 20-29, and 30-39, 13.3% for age between 40-49. This indicated that, firms within the maturity period of 20-49 years have gained more, through the usage of ICT, which also helps to enhance their value added.

Table 3. Impact of ICT Usage According to Firm's Maturity

		VALUE OF ICT ON AGE					Total
		less than 20	20-29	30-39	40-49	morethan 50	
Extent of Value of ICT on Age	No Value	0	2	1	0	1	4
		0.0%	50.0%	25.0%	0.0%	25.0%	100.0%
	Little Value	1	1	1	3	0	6
		16.7%	16.7%	16.7%	50.0%	0.0%	100.0%
	Some Value	0	4	7	11	3	25
		0.0%	16.0%	28.0%	44.0%	12.0%	100.0%
	Significan t Value	0	5	16	9	7	37
		0.0%	13.5%	43.2%	24.3%	18.9%	100.0%
Total	Great Value	0	10	16	4	0	30
		0.0%	33.3%	53.3%	13.3%	0.0%	100.0%
		1	22	41	27	11	102
		1.0%	21.6%	40.2%	26.5%	10.8%	100.0%

While in Table 4, which investigate the relationship between what firms said to question using ICT would increase the value added to your firm and the firm's size. It was discovered that ICT would have a great value added of about 33.3% for firms with less than 10 employees, and 26.7% for firms with an employees of about 10-40. Also great value added of about 20% each for employees between 50-100 and 100 and above.

Table 4. ICT Usage According to Firm's Size

		NO OF EMPLOYEES				Total
		Less than 10	10-49	50-100	100 and above	
Extent of Value of ICT on the Firm's Maturity	No Value	3	1	0	0	4
		75.0%	25.0%	0.0%	0.0%	100.0%
	Little Value	3	2	1	0	6
		50.0%	33.3%	16.7%	0.0%	100.0%
	Some Value	10	9	2	4	25
		40.0%	36.0%	8.0%	16.0%	100.0%
	Significant Value	9	8	12	8	37
	24.3%	21.6%	32.4%	21.6%	100.0%	
	Great Value	10	8	6	6	30
		33.3%	26.7%	20.0%	20.0%	100.0%
Total		35	28	21	18	102
		34.3%	27.5%	20.6%	17.6%	100.0%

From the above analysis, we discovered that, communication, business service and financial & insurance firms, who have been in operation for about 20-40 years, with minimum employees of about 10 and maximum of 50, see information communication technology as adding great value to their business operations.

For better understanding of this above concept, it become paramount to carry out investigation about the relationships between firms that have adopted ICT technology in their operations and according to business sectors, business maturity o, and the business size.

Table 5. ICT Adoption According to Business Sector

			ICT ADOPTION AND BUSINESS SECTORS										Total
			Manufacturing	Construction	Wholesale/Retail	Restaurant/Hotel	Business Service	Communication	Hospital	Financing and insurance	Transport and Storage	Import and Export	
Extent of ICT Adoption and Business Firms	Poor		0	1	4	2	0	0	2	0	0	0	9
			0.0%	11.1%	44.4%	22.2%	0.0%	0.0%	22.2%	0.0%	0.0%	0.0%	100.0%
Average	Below		1	4	4	2	0	0	5	0	1	2	19
			5.3%	21.1%	21.1%	10.5%	0.0%	0.0%	26.3%	0.0%	5.3%	10.5%	100.0%
Average	Average		4	3	4	2	1	0	2	0	4	1	21
			19.0%	14.3%	19.0%	9.5%	4.8%	0.0%	9.5%	0.0%	19.0%	4.8%	100.0%
Good			6	0	1	5	3	1	1	4	1	2	24
			25.0%	0.0%	4.2%	20.8%	12.5%	4.2%	4.2%	16.7%	4.2%	8.3%	100.0%
Excellent			1	2	0	0	8	10	0	7	1	0	29
			3.4%	6.9%	0.0%	0.0%	27.6%	34.5%	0.0%	24.1%	3.4%	0.0%	100.0%
Total			12	10	13	11	12	11	10	11	7	5	102
			11.8%	9.8%	12.7%	10.8%	11.8%	10.8%	9.8%	10.8%	6.9%	4.9%	100.0%

From Table 5 above, we discovered that, communication, business service and financial & insurance has been the major adopters of ICT technology in their respective operations. Communication industry is one of the major adopter of the ICT technology, followed by business service and financial & insurance sector, which accounts for 34.5%, 27.6% and 24.1% respectively. These firms adopt and use ICT in their business operations more than other firms.

Table 6. ICT Adoption According to Firm's Maturity

			AGE OF THE FIRM					Total
			less than 20	20-29	30-39	40-49	morethan 50	
Extent of ICT Adoption and Age	Poor		1	2	2	3	1	9
			11.1%	22.2%	22.2%	33.3%	11.1%	100.0%
	Below Average		0	3	7	7	2	19
			0.0%	15.8%	36.8%	36.8%	10.5%	100.0%
	Average		0	5	5	7	4	21
			0.0%	23.8%	23.8%	33.3%	19.0%	100.0%
	Good		0	7	10	5	2	24
			0.0%	29.2%	41.7%	20.8%	8.3%	100.0%
	Excelent		0	5	17	5	2	29
			0.0%	17.2%	58.6%	17.2%	6.9%	100.0%
Total			1	22	41	27	11	102
			1.0%	21.6%	40.2%	26.5%	10.8%	100.0%

The business maturity and its impact on the adoption of ICT to the firms above, is another paramount variable to be considered. It was discovered from the Table above, that firms that have been in business between 30-39 years have adopted the highest ICT with 58.6%.

Table 7. ICT Adoption According to Firm's Size

		NO OF EMPLOYEES				Total		
		Less than 10	10-49	50-100	100 and above			
Extent of ICT Adoption and Size	Poor		5	3	1	0	9	
			55.6%	33.3%	11.1%	0.0%	100.0%	
	Below Average		10	5	0	4	19	
			52.6%	26.3%	0.0%	21.1%	100.0%	
	Average		4	8	5	4	21	
			19.0%	38.1%	23.8%	19.0%	100.0%	
	Good		7	6	9	2	24	
			29.2%	25.0%	37.5%	8.3%	100.0%	
	Excellent		9	6	6	8	29	
			31.0%	20.7%	20.7%	27.6%	100.0%	
	Total			35	28	21	18	102
				34.3%	27.5%	20.6%	17.6%	100.0%

As it was discovered in Table 7 above, firm size (as measured by the number of employees in the firm) play significant role in adopting ICT. Firms with less than 10 employees recorded excellent adoption of ICT with 31.0%. Firms with employees with 100 and above accounts for 27% while firms with employees between 10-49 and 50-100 accounts for excellent adoption of ICT with 20.7% each.

From the findings, we discovered that firms, such as communication, business service and financial & insurance sector, who have been in operation for 30-40 years, with fewer employees of 10 and maximum of above 100, have adopted ICT technology in their operations over the years.

Table 8. Factor Limiting ICT Adoption According to Business Sector

		LIMITING FACTORS OF ICT AND BUSINESS FIRMS										Total
		Manufacturing	Construction	Wholesale/Retail	Restaurant/Hotel	Business Service	Communication	Hospital	Financing and insurance	Transport and Storage	Import and Export	
Factors Limiting ICT Adoption	Lack of infrastruvt	4 14.8%	2 7.4%	1 3.7%	4 14.8%	2 7.4%	5 18.5%	5 18.5%	0 0.0%	3 11.1%	1 3.7%	27 100.0%
	Low level	1 8.3%	2 16.7%	1 8.3%	1 8.3%	1 8.3%	0 0.0%	3 25.0%	0 0.0%	2 16.7%	1 8.3%	12 100.0%
	Cost of ICT	1 8.3%	4 33.3%	3 25.0%	2 16.7%	1 8.3%	0 0.0%	1 8.3%	0 0.0%	0 0.0%	0 0.0%	12 100.0%
	Unsuitability to	1 14.3%	1 14.3%	0 0.0%	0 0.0%	4 57.1%	0 0.0%	1 14.3%	0 0.0%	0 0.0%	0 0.0%	7 100.0%
	Unreliable Service	1 10.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 10.0%	0 0.0%	6 60.0%	0 0.0%	2 20.0%	10 100.0%
	Lack of Awareness	1 4.8%	1 4.8%	3 14.3%	0 0.0%	3 14.3%	5 23.8%	0 0.0%	5 23.8%	2 9.5%	1 4.8%	21 100.0%
	security concern	0 0.0%	0 0.0%	0 0.0%	1 50.0%	1 50.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	2 100.0%
	Time Barner	0 0.0%	0 0.0%	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 100.0%
	Business Partners	3 30.0%	0 0.0%	4 40.0%	3 30.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	10 100.0%
	Total	12 11.8%	10 9.8%	13 12.7%	11 10.8%	12 11.8%	11 10.8%	10 9.8%	11 10.8%	7 6.9%	5 4.9%	102 100.0%

The purpose of Table 8 above is to investigate how many firms see lack of ICT infrastructure as a limitation in achieving their business objectives, and of what age and size they are. From the table above, it was discovered that almost all the firms see lack of ICT infrastructure as a factor in their business operations. Though, communication, hospital, manufacturing, restaurant and hotel firms expressed the fact that lack of ICT infrastructure would jeopardize their business operations.

Table 9. Factors Limiting ICT Adoption According to Firm Age

		ICT ADOPTION AND AGE					Total		
		less than 20	20-29	30-39	40-49	morethan 50			
Extent of ICT Adoption and Age	Poor		1	2	2	3	1	9	
			11.1%	22.2%	22.2%	33.3%	11.1%	100.0%	
	Below Average		0	3	7	7	2	19	
			0.0%	15.8%	36.8%	36.8%	10.5%	100.0%	
	Average		0	5	5	7	4	21	
			0.0%	23.8%	23.8%	33.3%	19.0%	100.0%	
	Good		0	7	10	5	2	24	
			0.0%	29.2%	41.7%	20.8%	8.3%	100.0%	
	Excelent		0	5	17	5	2	29	
			0.0%	17.2%	58.6%	17.2%	6.9%	100.0%	
	Total			1	22	41	27	11	102
				1.0%	21.6%	40.2%	26.5%	10.8%	100.0%

Table 10. Factor Limiting ICT According to Business Size

			FACTORS LIMITING ICT SIZE				Total
			Less than 10	10-49	50-100	100 and above	
Factors Limiting ICT Adoption and Size	lack of ict infrastru		5	5	12	5	27
			18.5%	18.5%	44.4%	18.5%	100.0%
	employee s IT skill		1	7	1	3	12
			8.3%	58.3%	8.3%	25.0%	100.0%
	Cost of adopting		6	3	2	1	12
			50.0%	25.0%	16.7%	8.3%	100.0%
	Unsuitabil ity to		4	3	0	0	7
			57.1%	42.9%	0.0%	0.0%	100.0%
	Unreliabl e Service		1	6	2	1	10
			10.0%	60.0%	20.0%	10.0%	100.0%
	Lack of awarenes		8	3	3	7	21
			38.1%	14.3%	14.3%	33.3%	100.0%
	security concern		1	1	0	0	2
		50.0%	50.0%	0.0%	0.0%	100.0%	
Time Banner		1	0	0	0	1	
		100.0%	0.0%	0.0%	0.0%	100.0%	
Business Partners		8	0	1	1	10	
		80.0%	0.0%	10.0%	10.0%	100.0%	
Total			35	28	21	18	102
			34.3%	27.5%	20.6%	17.6%	100.0%

While in Table 9 above, we discovered that, firms that have been in business for over 20-50 years see lack of infrastructure as a major factor, with the 22.2%, 44.4% and 29.5% respectively. From Table 10, which illustrates the factors limiting ICT adoption and business size, it was discovered that from every level of business employment, lack of infrastructure is seen as the biggest factor that may hinder their business operations.

4.2 Discussion of Findings

From the findings above, it was discovered that, there are firms, especially, communication, business service, financial & insurance who have been able to adopt and use ICT in their business operation effectively to achieve their business objectives, while firms such as manufacturing, construction, hospital among others, wish but has not been able to adopt ICT. This has been displayed in the table above and prompt intervention is needed on the side of the government, to help this sector acquire the vital and necessary ICT technology to revamp and improve in their operations.

It was discovered that, lack of ICT infrastructure is a crucial factor that most of the business sectors face, no matter their level of business maturity and size. ICT infrastructure in any business organization plays a vital role. This helps to educate new and existing employees on how to operate and use ICT tools in other to enhance their respective job performance and at the same time, enhance business productivity.

At this juncture, it is paramount to note that, perceptions on the use, adoption, and value of ICT among SMEs in Lagos and neighboring states in Nigeria have significant impact on businesses in this area no matter, the sector, maturity and size of the firm. Functional relationships have been found to exist between these variables, which help in determining, the extent at which business objectives is achieved

Chapter 5

CONCLUSION AND RECOMMENDATION

5.1 Summary

The overall focus of this study was to investigate and evaluate the perceptions of managers on ICT value, use, and adoption among SMEs in Lagos and neighboring states in Nigeria. The study made use of questionnaire as a technique for data collection. Both the review of related literatures and the empirical findings evaluated and ascertained the perception of managers on the use, adoption and value of ICT among SMEs. The study also examined the perceived government policy implementation in supporting SMEs to adopt ICT in their businesses.

ICT adoption is strategic and helps to facilitate immediate growth and survival of any business irrespective of its size. Government support is very essential in creating awareness about the benefits of ICT adoption. Some of the benefits of ICT adoption examined in the literature include: increase in global reach, creating product awareness, increase in revenue, and improvement in customer service. Though the benefits of ICT are numerous, so are its challenges. Some of these challenges include: ownership characteristics, poor ICT infrastructure, employee low ICT skills, and lack of information about the benefits of ICT, building security and trust and unsuitability to businesses. Despite all these challenges, businesses must be redesigned to adopt ICT for firm's effectiveness and efficiency.

Furthermore, majority of SMEs have benefited from the opportunities offered by ICT adoption. The literature also illustrated the importance of e-marketing tools which has increased their reach, reduced marketing costs and reduced information asymmetry. E-marketing does not only help firms to interact with their customers but also help to design products according to customer's desire.

Social media has become influential and helpful for marketers to promote their products using online platforms to communicate to the large communities that may not be reached through traditional advertising channels. Finally, the analysis ascertained the value added of ICT, extent of adoption and use on the size, age and business firms that have adopted ICT for their operations.

Relating to the role of government, it was revealed in the study that government needs to address the issue of low level infrastructure, cost of adopting ICT, unreliable service providers, security and trust and create awareness to educate businesses about the benefits of ICT.

5.2 Conclusion

Based on the focus of the study, the perceptions on the use, adoption and value of ICT among SMEs have been clearly analyzed. Factors limiting ICT adoption were also investigated and these factors include: lack of infrastructure, low employees ICT skills, uncertainty about internet, high cost of adopting and maintaining ICT, unreliable service providers and unsuitability to business operation. The study also evaluated the importance of government support to create awareness, to invest in ICT and to train employees in ICT skills.

5.3 Limitations of the Study

The major limitation of this study is the concentration of the survey on SMEs in the city of Lagos, Abeokuta and Ibadan, because of the huge financial involvement to administer questionnaire to SMEs in all parts of country. The researcher adopted a convenient sampling technique to gather data and no other data collection technique was used to validate the result of the survey.

5.4 Recommendation

As noted in the limitation of this study, further research should be conducted in larger geographical, industrial and firm contexts in Nigeria. Research should also investigate managers qualitatively to validate the claims with qualitative analysis.

Financial support should be granted to firms who wish but has not been able to adopt ICT. Prompt intervention is needed on the side of the government, to help firms acquire the vital and necessary ICT technology to revamp and improve their operations.

Government should sign internet bill into law to specify punishment for internet hackers and guide e-businesses activities in the country. Government should also provide infrastructure to encourage ICT adoption especially in energy generation. Government should also invest in ICT and include ICT courses in public secondary schools to enable students to have the basic knowledge of ICT.

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APPENDIX

Appendix A: Questionnaire

EASTERN MEDITERRANEAN UNIVERSITY

Thank you for accepting to fill this questionnaire. The survey is carried out by a student of marketing in the above mentioned university and it is strictly for academic purposes. Your input will be highly appreciated.

1. Gender

Male

Female

2. Age

Less than 20

20 - 29

30 - 29

40 - 49

More than 50

3. Education

Secondary/Waec

Diploma

Bachelor

Masters or Higher

4. Please mark the business sector your firm belongs to

Manufacturing

Construction

Wholesale/retail

Restaurant/Hotel

Business Services

Communications

Hospitals

Financing & insurance

Transports & storage

Import and export

5. Number of persons engaged in your firm (employees)

Less Than 10

10 - 49

50 – 100

100 and above

6. Number of years your firm has been in business

Less than 3 years

3 – 6 years

7 – 10 years

10 – 15 years

15 – 20 years

20 and above

7. To what extend does your firm currently use ICT?

Not at all

Sometimes

Very Often

Very little

Often

8. Overall, to what extent do you feel that using ICT would increase the value added to your firm?

No Value added

Very little value added

Some value added

Significant value added

Great value added

9. To what extent has your business adopted ICT technology in its operation?

Poor

Below average

Average

Good

Excellent

10. What do you think are the factors limiting ICT adoption and usage for your firm?

- Lack of ICT infrastructure
- Lack of awareness about the benefit of ICT
- Employees IT skill level is too low
- Security concern
- ICT is too expensive
- Time banner
- Unsuitability of ICT to business
- Business Partners do not use ICT for
- Unreliable service providers

11. How useful would the following types of government support be to your firm for the use of ICT?

	Not useful	Little useful	Not sure	Very useful	Highly useful
Investing in ICT infrastructure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Building security and legal framework to ensure trust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing more awareness of the ICT benefit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing ICT adoption Training and consulting services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>