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Information and Communication Technology Applications in Small and Medium Scale Enterprises (Smes) Funding in Nigeria: An Impact Assessment

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Abstract In developing and developed countries, small and medium scale enterprises play important roles in the process of industrialization and economic growth. Apart from increasing per capita income and output, they create employment opportunities, enhance regional economic balance through industrial dispersal and generally promote effective resource utilization considered critical to engineering economic development and growth. However, the seminal role played by SMEs in Nigeria notwithstanding its development has become an emerging topic of great importance for academia and real sector. It is on account of the above problems that this paper examines the impact of Information and Communication Technology infrastructure on Nigerian Small and Medium Scale Enterprises funding arrangements. The methodology employed in this paper is opinion survey and result are presented using tables and charts. The paper reveals that SMEs in Abuja, Nigeria do not seem to be acquiring relevant Information and Communication Technology infrastructures needed for their funding arrangements, although computers were found in virtually all the SMEs offices they were not connected to the information super highway. The paper underscores the importance of Information and Communication Technology Application for SMEs to be relevant, they have to devise ways of bridging the digital divide and recommends that SMEs must equip themselves adequately with of Information and Communication Technology facilities and computers should necessarily be connected to the information super highway while the energy sector should urgently be over-hauled to ensure constant and uninterrupted electricity supply.

Keywords Information Communication Technology, Computers, Small Medium Enterprises, Microfinance

1. Introduction

Today we live in an information society in which more people must manage more information, which in turn requires more technological support, which both demands and creates more information. Electronic technology and information are mutually reinforcing phenomena, and one of the key aspects of living in the information society is the growing level of interactions we have with this complex and increasingly electronic environment. The general consequence is that we deal with large volumes of information, new forms and aggregations of information, and new tools for working with information (Marchionini, 1997). These new tools we use to manage information at corporate, governmental and societal level are tools we must learn to use, pay for and maintain. The primary tool of the information society is the computer. Microprocessors are used to improve the performance of other technologies, and computers are increasingly used to control and integrate other kinds of information technology (e.g. TV, radio, telephones).

Current literatures has it that ongoing advances in information systems and communication technologies allow organizations to achieve greater levels of productivity, efficiency and service delivery (Brown, 2000; Dawes et al, 1997; Drucker, 1995; Tapscott and Caston, 1993). For example, one electronic mail message replaces the dictation of a memo which is then typed, copied and distributed. Electronic workflow processing allows operational reports to be stored and forwarded to appropriate units for follow-up without a host of manual intervening steps.

One other thing that is crucial as far as ICTs are concerned is that, because of technological and communication innovations, geographic boundaries that once defined citizens, client and customer service jurisdiction no longer

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apply. The move toward e-commerce, e-banking and e-governance provides an excellent example of how organizations are no longer restricted to, a contained geographic boundary. In this 21st century, organizations all over the world have come to realize that only those that overhaul the whole of their administrative systems and operations are likely to survive and prosper. Due to the pressures of competition and the need to maintain a high level of efficiency and productivity organizations have been forced to catch on to the technological craze. Thus in order to place themselves in a favorable position to meet the growing expectations of their customers, and become organizations or co-operations to be reckoned with, more organizations are making use of it to smoothen and speed up the process of administration. They have not only started ensuring that their PC per capita use is one for every staff, but have also started bringing PC's together to form local and wide area networks.

Many organizations use computer systems to run their inventory, control accounting, manage human resources, etc. Businesses are no longer relying on trails of paper work to conduct every day transactions. With an installed modern computer interconnectivity backbone, establishments can keep in touch, synchronize and co-ordinate activities with the utmost ease.

Managers now realize that information technology can be used as an engine to speed up processes, eliminate or reduce paperwork, increase the quality of output and service delivery, decrease storage costs, and enhance information sharing and communication. They also realize that they have to achieve not only management / staff wide computer literacy, i.e. knowing how to locate, analyze, store and use information. All staff in modern organizations needs to be able to search and gather data from different sources, analyze them, select the relevant ones and organize them in such a manner as to allow them make decisions based on the information.

These being the case, how are Nigerian Small and Medium Scale Enterprises (SMEs) faring in joining the information technology bandwagon? What are the SMEs doing to increase their productivity and efficiency through the use of ICT? How has ICT Applications assisted in SMEs funding? What constraints or challenges are organizations facing in overhauling their management? In what ways exactly is ICT infrastructure enhancing efficiency in the Nigerian SMEs? These and related questions structure the argument of this research.

In order to buttress more on the argument of this research, we should understand that SMEs in Nigeria are an informal sector whose managers are mostly the rural peasantry. Nigerian citizens particularly the rural communities who are supposed to be the ultimate beneficiaries of ICT infrastructure as an essential tool for efficient and effective service-delivery are marginalized in this era of global integration by being denied access to ICTs, which according to Bello (2003) have the potential to empower. The direct effects of such marginalization are the following problems among others:

(i) The lack of mechanisms that would enable the Nigerian SMEs especially microfinance banks to generate, fund and share information with other communities and corporate bodies for national economic development.
(ii) Remoteness, leading to high start-up and maintenance costs, as well as a lack of electricity, so that computers often require generators and voltage stabilizers;
(iii) The lack of relevant human capital (in particular, technicians for maintenance and repair);
(iv) Consequently, costs are raised, since the equipment used must be robust; and;
(v) Low earning capacity of the majority of the SMEs especially microfinance banks, so much so that considerations of commercial viability could lead to firms having to charge prices that, at best, only a tiny minority could afford.

It is on account of the above-stated problems that this study examines the impact of Information and Communication Technology (ICT) infrastructure on Nigerian Small and Medium Scale Enterprises funding arrangements. Special focus is made on a sample of eight (8) micro finance banks located at the Nigeria's Federal Capital Abuja. Results are presented using tables and charts. On a tentative basis the following microfinance banks were used for the questionnaire administration:

1. Memzeen Microfinance, Kwali, Abuja
2. Alliance Microfinance, Garki, Abuja
3. Anchorage Microfinance, Kubwa, Abuja
4. M-Tech Ltd, Garki, Abuja
5. Grants Microfinance, Gwagwalada, Abuja
6. Greenfield Microfinance, Gwarimpa, Abuja
7. Municipal Microfinance, Maitama, Abuja
8. Wuse United Ltd, Wuse, Abuja

Having introduced issues of this research, we need to discuss the broad objective which stands to examine the impact of Information and Communications Technology Infrastructure on Nigerian SMEs Funding Arrangements with reference to microfinance banks. The specific objectives are as follows:

(i) To determine the level of computer literacy and IT diffusion in the FCT SMEs with reference to microfinance banks.
(ii) To determine ways through which the SMEs can speed up operations, funding arrangements and efficiency through the use of Information Technology.
(iii) To identify the likely areas of problems hindering effective realization of policy expectation in the SMEs.
(iv) To suggest ways and mechanisms on how best to enhance the full potential of ICTs as an enabler of socio-economic development of SMEs in Nigeria.

2. Review of Related Literature

Information and Communication Technologies (ICTs) have become key tools and had a revolutionary impact of how we see the world and how we live. This phenomenon has given birth to the contemporary e-commerce, e-medicine and e-education, e-governance which is part of the main focus of this study.

In view of this, a review of related literature on Information Technology, Digital Government is critical to the realization of the objectives of this research. This is especially timely and crucial as the Information Society is creating unprecedented conditions for bridging the digital divide through supporting government operations to strengthen the establishment of efficient, effective and transparent governance. Electronic tools can significantly improve the services and information flows from administrations, business circles to their constituencies, customers and or clients. Communications among administrators, citizens and businesses can be enhanced as ICTs offer unique opportunities for the re-use of public and private sectors information within the emerging digital economy which in turn create vast economic opportunities for the country at large. However, these are only possible if the conducive environment for policy and regulatory framework is provided. This is necessary in order to effectuate the implementation of the National IT policy.

Nigeria, a country on the West Coast of Africa, with an estimated population of over 160 million people is the most populous nation in Sub-Saharan Africa. It occupies a land mass of about 923,768 square kilometers, and is generally known to have over 274 ethnic groups in the Federation. The desire of the government to move closer to the people in the grassroots and instill self-reliance has progressively led to the division of three major regions into 36 states grouped under six geopolitical zones with a total of 774 local government areas (LGAs). A breakdown of the statistics available on Nigeria shows the following: more than 45% of the people are female; the poverty rate is about 67.8% the majority of the people (70%), live in the rural areas, and over sixty percent of the young (0-15) are under the age of 15. These indicators show that the majority of Nigerians fit the main focus of the Global Forum, which is to reach those who are yet to be reached (the class of the poor, the illiterate, women, the marginalized, and those living in remote areas) through one form of education or the other/whether formal or informal education. In particular, women and minority communities, such as nomads, fisher men, and unemployed youths are examples of these hitherto mentioned regulated communities in Nigeria (Jegede, 2002:1).

In terms of its economy, Jegede (2002:1) points out that about 90 percent of Nigeria's annual income comes from petroleum revenue – it exports two million barrels of oil a day and that it ranks as the country with the seventh largest oil reserves in the world. The country's less than desirable economic growth makes it almost impossible to cope with the resources needed by the huge and fast-growing population to develop the country and upgrade the welfare of ordinary persons especially in the rural areas (Akinsola, Herselman and Jacobs, 2005:2). The Federal Government of Nigeria itself realizes the potential of Information and Communication Technology (ICT) to empower the people and declared it as a national priority which has the capacity to generate the needed socio-economic and political development as well as enhance good governance and accountability.

Furthermore, the term "Information technology" evolved in the 1970s. Its basic concept, however, can be traced to the World War II alliance of the military and industry in the development of electronics, computers and information theory. There have been varying opinions on the concept of information technology most of them revolving around the same axis.

Chaharbaghi and Willis (2000) present technology as something new as it drives change at an ever increasing rate. It is often equated as being modern and holds out a panacea in which the future is invariably better than the past. Information technology can be seen in the light of the following definitions.

- As the various technologies which are used in the creation, acquisition, storage, dissemination, retrieval, manipulation and transmission of information (Moll 1983)
- As a means of processing data, gathering information, storing collected materials, accumulating knowledge and expediting communication (Chan 2002)
- As having a primary focus of collecting, organizing, storing, retrieving, interpreting and using information.

Frenzel (1999) conceptualizes information technology as the term that describes an organizations computing and communications infrastructure, including computer systems, telecommunications, networks, and multimedia software and hardware. He goes on to assert that information technologies are computer based and operate on a convergence of the electronics and telecommunications devices.

Information technology is also seen as the use of electronic machines and programs for the processing, storage, transfer and presentation of information. It encompasses many technologies such as computers, software, networks and even telephone and fax machines. The purpose of IT is to facilitate the exchange and management of information and has a lot of potentials for the information process component of any organization (Bjork 1999).

Information technology according to Marghalani (1987) is a term which encompasses the notion of the application of technologies to information handling (generation, storage, processing, retrieval, dissemination etc).

Information technology is defined by the Information Technology Association of America (ITAA) (2003) as the study, design, development, implementation, support or management of computer based information systems, particularly software applications and computer hardware. Encompassing the computer and information industries,

information technology is the capability to electronically input process, store, output, transmit and receive data and information including text, graphics, sound and video, as well as the ability to control machines of all kinds electronically. Information technology is comprised of computers, networks, satellite communications, mobile communications, robotics, videotext, cable television, electronic mail (E-mail), electronic games and automated office equipment. The information industry consists of all computer communications and electronic related organizations including hardware, software and services. Completing tasks using information technology results in rapid processing and information mobility as well as improved reliability and integrity of processed information.

The Encyclopedia of Business (2001) defines IT as "Computer based information management systems allowing a financial institution to collect information from many different sources and develop a composite picture about its customers, its market position in different financial centers and its net exposure in those markets. In banking terms, information technology is seen as the development, installation and implementation of computer systems and applications. Information technology is concerned with the use of technology in managing and processing information especially in large organizations. In particular it deals with the use of electronic computers and computer software of convert, store, protect, process, transmit and retrieve information. For that reason, computer professionals are often called IT specialists or business process consultants and the division of company or organization that deals with software technology is often called the IT department.

The U.S Architectural and Transportation Barriers Compliance Board (2003) defined information technology to include any equipment or interconnected system or subsystem of equipment that is used in the creation, conversion or duplication of data or information. The term includes but is not limited to, telecommunication, products, (such as telephones, information kiosks, and transaction machines. World Wide Web sites and the office equipment such as copiers and fax machines.

It is a term that encompasses all forms of technology used to create, store, exchange and utilize information in its various forms including business data conversion, multimedia presentations etc. With regards to administration/management IT can be seen as the process of electronic manipulation of information key to the process of decision making and communication of this information to its point of need within the organization, thus enhancing the achievement goals and objectives. The term "IT" encompasses the methods and techniques used in information handling and retrieving by automatic means. These means include computers, telecommunication, and office systems or any combination of these elements. It is the application of computer communications and software technology to management, processing and dissemination of information.

All the above definitions of information technology share certain key characteristics which are outlined below.

- Information technology is a combination of two major components, computers and telecommunications.
- Information technology is a master tool for managing information in all its ramifications, i.e. creating /generating, gathering, organizing, manipulating, storing, retrieving and dissemination
- Information technology has the capability and versatility to impact and improve every field of endeavour and form of organization by automating the use of information.
- Information technology carries with it the hallmarks of a modern day computer i.e. Speed, accuracy, efficiency and productivity.

However, from the knowledge of the foregoing, and for the purpose of this research, information technology will be defined as the various technologies which are used in the acquisition, storage, organization, manipulation and transmission of information to accumulate knowledge, ease and expedite planning, decision making and controlling in an organization, while enhancing efficiency. On a last and crucial note, with regards to the meaning of IT, there is the need to further stress the fact that IT is the merging of computing and telecommunications technologies. For the full potential of information technology to be realized, these two elements must come together.

On their own, the powers of computers are immense, but limited. It is only when communications is introduced that computers can be networked so that people can work together by sharing data, documents and by sharing ideas mainly through electronic messages. Many believe that it is only when two or more computers are networked that organizations can start appreciating the real power of the computer. As Gates (1995) put it, "the personal computer has already had a huge effect on business. But its greatest impact won't be felt until the PCs inside and outside a company are intimately connected". What this implies is that, although an organization may own stand-alone computers, such an organization cannot be said to be proficient in IT until these computers are interconnected or networked, allowing information to be exchanged within the organization with the utmost of ease.

Furthermore, it is important to know that for both developing and developed countries, small and medium scale firms play important roles in the process of industrialization and economic growth. Apart from increasing per capita income and output, SMEs create employment opportunities, enhance regional economic balance through industrial dispersal and generally promote effective resource utilization considered critical to engineering economic development and growth. However, the seminal role played by SMEs notwithstanding its development is everywhere constrained by inadequate funding and poor management. The unfavorable macro-economic environment has also been identified as one of the major constraints which most times encourage financial institutions to be risk-averse in funding small and

medium scale businesses. The reluctance on the part of financial institution to fund SMEs can be explained by the insufficient capital base of banks and information asymmetry that often exists between SMEs and lending institutions (Ogujiuba, K. K., Ohuche, F. K. and Adenuga, A. O. 2004: pp. 3-6).

Financial systems, the world over, play fundamental roles in development and growth of the economy. The effectiveness and efficiency in performing these roles, particularly the intermediation between the surplus and deficit unit of the economy, depends largely on the level of development of the financial system. It is to ensure its soundness that the financial sector appears to be the most regulated and controlled by the government and its agencies. Generally, the stage of development and, thus, the efficiency of the system varies among countries and changes over time in the same country. The more developed and sophisticated financial systems tend to be associated with the mature economies, while under-developed financial systems feature in developing economies. As a process, the financial system adjusts to changes in the real economy just as the economy responds to developments in the financial sector. All over the world, size had become an important ingredient for success, the banking sector included. The last few years have witnessed the creation of banking groups through mergers and acquisitions. Re-capitalization of banks in Nigeria is intended among others to help mobilize domestic savings, deepening and broadening intermediation, improve allocation of resources and helping to mobilize foreign savings. These have attracted criticism from both the public and private sector. Some believe that this would lead to the collapse of most banks and the attendant unemployment would be grave for the economy; others believe that the capital base be structured in a way that would categorize banks as big and small players. There is also a view that the proposed policy is a welcome development but if not well managed could send the wrong signals, as it could lead to a run on banks within the stipulated period, jeopardizing the three main functions of Banks: - Transforming short term liquid deposits held by households into illiquid liabilities issued by firms; Screening potential borrowers/Monitoring actual borrowers on behalf of depositors and Facilitating transactions between agents by providing payment service.

The Manufacturing (including Micro, Small and Medium Enterprises) sector is acknowledged to have huge potential for employment generation and wealth creation in any economy. Yet in Nigeria, the sector has stagnated and remains relatively small in terms of its contribution to GDP or employment generation. Activity mix in the sector is also quite limited – dominated by import dependent processes and factors. Although there is no reliable data, imprecise indicators show that capacity utilization in the sector has improved perceptibly in the period since 1999, but the sector is still faced with a number of constraints with lack of credit availability as the principal constraint. Credit is the largest element of risk in the books of most banks and failures in the management of credit risk, by weakening individual banks and in some cases the banking system as a whole have contributed to many episodes of financial instability. A greater understanding of the nature of credit risk, leading to improved measurement and management, would help to strengthen the international financial system vis-à-vis the small and medium enterprises in the long-run. An increasing amount of research on credit risk is being carried out within financial firms, central banks, regulators and universities.

Stiglitz and Weis (1981) observe that small and medium scale firms with opportunities to invest in positive net present value projects may be blocked from doing so because of adverse selection and moral hazard problems. Adverse selection problems arise when potential providers of external finance cannot readily verify whether the firms have access to quality projects. Nonetheless, the liquidity ratio of the financiers plays a major role. Moral hazard problems are associated with the possibility of SMEs diverting funds made available to them to fund alternative projects or develop the propensity to take excessive risks due to some pervasive incentive structure in the system. On the other hand, because SMEs do not have access to public capital markets they naturally depend on banks for funding. Dependence on banks makes them even more vulnerable for the simple reason that shocks in the banking system can have significant impact on the supply of credit to SMEs. Thus, SMEs are subject to funding problems in equilibrium and these problems are exacerbated during periods of financial instability.

Berger and Udell (2001) further note that shocks to the economic environment in which both banks and SMEs exist can significantly affect the willingness and capability of banks to lend to small and medium scale firms. These shocks come in a variety of forms such as technological innovation, regulatory regime shifts, and shifts in competitive conditions and changes in the macroeconomic environment. Financial institutions respond to these shocks in a number of ways, one of which is to develop stringent lending rules that not only avail them of full information about the firm and the owner, but also ensure that their investment in such firms are guaranteed in both the short and the long-run.

In less developed countries where there is a dearth of information on the operations of SMEs, the situation degenerates into total risk-aversion by financial institutions in funding SMEs. Such risk-averse behaviour can ultimately affect the performance of monetary policy through the credit channel of policy transmission and perhaps snowball into financial instability in the system. In this research we assess major Bank Lending rules and their impact on funding SME's and analyze two surveys in Nigeria, one by the World Bank and another by the Central Bank of Nigeria to explain the banks' risk-averse behaviour in lending to SMEs, as well as the implication of such risk-averse behaviour on financial stability via credit channel of monetary policy.

However, since the attainment of independence in Nigeria, every known regime recognizes the importance of promoting SMES as the basis of economic growth. As a result, several micro lending institutions were established to enhance the

development of SMES. Such micro credit institutions include the Nigerian Bank for Commerce and Industry (NBCI), National Economic Reconstruction Fund (NERFUND), the People's Bank of Nigeria (PBN), the Community Banks (CB), and the Nigerian Export and Import Bank (NEXIM), and the liberalization of the banking sector. Howbeit, the banks in operation in the country are about 89 with more than 50% having capital base of less than US$10 million and about 3,300 branches. This compared to 8 banks in South Korea with about 4,500 branches or with one bank in South Africa with larger assets than all the 89 banks shows that the banking system is very marginal relative to its potentials and in comparison with other countries. Unfortunately, records indicate that the performance of SMES in Nigeria has not justified the establishment of this plethora of micro-credit institutions.

Odedokun (1998) notes that in spite of the quantum of credit made available to the manufacturing sector; the contribution of the index of manufacturing to GDP was only 7 percent between 1970 and 1979. In 2001, a study identified poor access to finance as the most critical constraint on small and medium scale enterprises in Nigeria. In fact, 50 percent of the surveyed enterprises received external finance while 79 percent indicated lack of financial resources as a major constraint (see Guardian, Nov, 26, 2001). Generally speaking, Small and Medium Scale Enterprises in Nigeria (SMEs) have the following characteristics:

(i) Firms are likely to be unquoted.
(ii) Ownership of the business is restricted to a few individuals, typically a family group.
(iii) They are not micro businesses that are normally regarded as those very small businesses that act as a medium for self-employment of the owners (Akinsulire, 2006: 578).

The SME sector provides employment to an estimated 80 percent of the Nigerian work force thus making the sector the highest employers of labour. The economy of any country depends on the contributions of all sectors of the economy particularly the small and medium scale enterprises.

In this regard, some of the features of Small Scale Industries in Nigeria are as follows:

- Low set up costs compared with large companies.
- Reliance on local raw materials.
- Employment generation.
- Value added.
- Accelerating rural development and contribution to stemming urban migration and problems of congestion in large cities.
- Stimulating entrepreneurship especially in the country side.
- Provide links between agriculture and industries.
- Mobilising private savings and harnessing them for productive purposes.
- Supplying parts and components for large-scale industries.
- Contribute to domestic capital formation (Akinsulire, 2006: 579).

Some of the operational structural problems of SMEs in Nigeria were further outlined by Akinsulire, (2006) as follows:

- Financing- This constitutes major problem. Their low business credibility, poor management, inefficiencies, limited collateral security, high risk of failure make it difficult for them to raise capital from usual sources and often force them to secure loans at higher interest rates from other lenders.
- Management Problems - All important entrepreneurial and operational decisions are taken by one person (sole owner).
- Lack of formal training in management and production skills.
- Most of them tend to be imitators rather than being innovators.
- Production of non-standardized products.
- Problem of marketing of products due to lack of awareness of market opportunities/skills.
- Most of them are concentrated in urban centers and could therefore not tap local advantages e.g. cheap labour, access to primary products etc.
- Little access to/inability to apply new technologies e.g. computers.

It is clear from the foregoing that little or no access to modern technologies like the computers, Internet, in fact ICT infrastructure as one of the fundamental problems of SMEs in Nigeria posed serious challenges to their operations and overall service delivery to customers/clients. Empirical research on ground will prove or invalidate this assertion.

3. Data Presentation and Analysis

The respondents were interrogated in terms of their access to specific ICT facilities at their work places. Their responses were presented below:

According to the table 1, basic office tools such as telephone, computer and printers were available and accessible by most of the SMEs staff, as suggested by very high percentage of positive responses (84.1 percent, 86.9 percent and 73.9 percent respectively). However, the table equally revealed that only an insignificant few respondents had access to such key ICT facilities as the Internet (11.5 percent), video conferencing facilities (7.2 percent) facsimile (5.8 percent) and email (3.6 percent).

The table 2 seems to have re-enforced the one before it (Table 4), given that a vast majority (over 89 percent) of the respondents did not appear to have access to the internet at their workplace, because the computers at their SMEs were not hooked to the information super highway (internet).

Table 1. ICTs provided at Respondents' work places (Abuja SMEs)

ICT FACILITIES	AVAILABILITY		NON AVAILABILITY	
	Frequency	Percentage	Frequency	Percentage
Telephone	116	84.1	22	15.9
Computers	120	86.9	18	13.1
Photocopiers	68	49.2	70	50.8
Printers	102	73.9	36	26.1
Internet facilities	16	11.5	122	89.5
Videoconferencing facilities	10	7.2	128	92.8
Facsimile	8	5.8	130	94.2
Telex	6	4.3	132	95.7
E-mail	5	3.6	133	96.4

Source: Survey Report 2014

Table 2. Whether the Computers at Respondents' SMEs are connected to the internet

Variables	Frequency	Percentage
Yes	16	11.5
No	102	73.9
No Response	20	14.6
Total	138	100

Source: Survey Report 2014

Whether Respondents have Personal or Shared Access to Computer in their SMEs

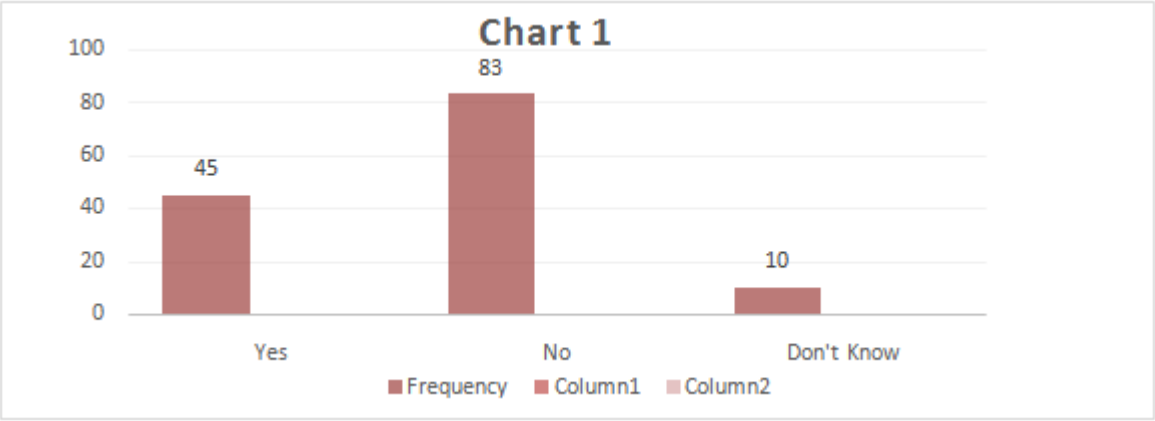

Chart 1.

The table above shows that a good majority (60.1 percent) of the respondents had no personal or shared access to a computer in their SMEs even where the computers were available. This re-enforced the earlier assertion that the computers were simply provided for routine office work and not necessarily as an ICT facility. Those respondents who claimed to have personal or shared access to the computer at their workplace (32.6 percent) faced additional constraint, because it was only in few cases that the computers were hooked to the internet (as revealed by Table 4).

There was also the non-availability (and by implication non diffusion) of such ICT facilities as video conferencing facilities, facsimile, e-mail and lack of connection to a local area network (as revealed by tables 3 and 5).

How Respondents rated Application of ICT in their SMEs

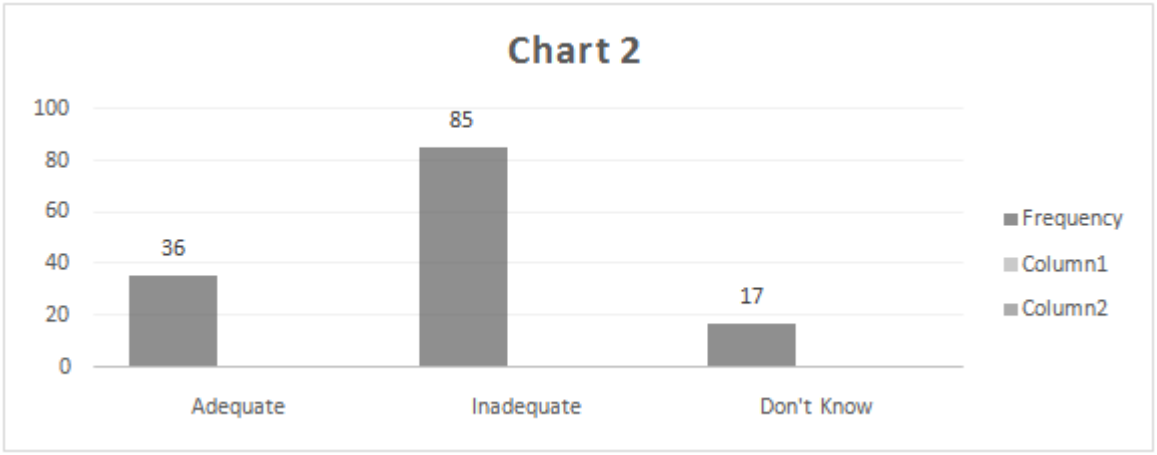

Chart 2.

Based on the responses above, a clear majority (61.5 percent) of the respondents believed that the application of ICT in their organisations was inadequate, while only 26.1 percent believed that the ICT use was adequate. Those who believe that the ICT application was inadequate predicated their argument on the fact that the ICT facilities were simply not available at the Abuja SMEs, and even where they were available they were mainly used for routine office work and were beyond the access of non-secretarial staff of the SMEs.

The inevitable inference to be drawn from the fore-going is that although there was an appreciably high level of computer literacy among the staff of the Abuja SMEs, the ICT diffusion in the Abuja SMEs was very low.

Table 3. Respondents view on whether ICT is essential in enhancing business operations, funding arrangements, customer and client satisfaction

Response	Frequency	Percentage
Yes	106	76.8
No	12	8.7
Don't Know	20	4.5
Total	138	100

Source: Survey Report 2014

The table above shows that most (76.8 percent) of the respondents were of the opinion that ICT was essential in enhancing business operations, customer and client satisfaction. However, considering the non-availability of the ICT facilities and the general low rating of the Abuja SMEs in terms of ICT applications. The Abuja SMEs were therefore being deprived of this essential ingredient for enhancing operations and customer/client satisfaction (ICT facilities).

Table 4. Whether respondents believed that ICT is a tool for reforming funding arrangements, market structures and business strategy

Response	Frequency	Percentage
Yes	101	73.2
No	13	9.4
Don't Know	24	17.4
Total	138	100

Source: Survey Report 2014

Based on the responses above, it is clear that most (73.2 percent) of the respondents affirmed that ICT was a tool for reforming market structures and business strategy, which by implications means that the Abuja SMEs, due to non-availability and lack of access, were depriving themselves of this tool.

Respondents views on whether ICT use has led to any significant improvement on how they carry out their responsibilities particularly funding arrangements

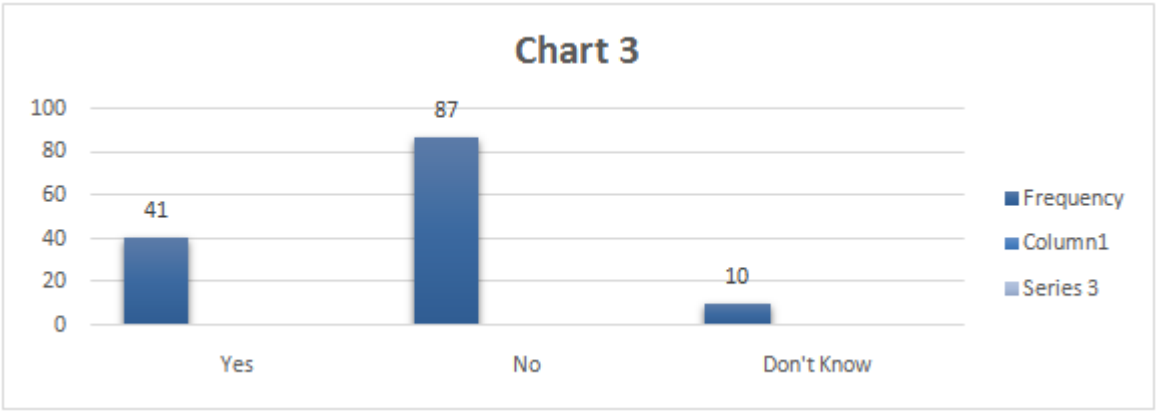

Chart 3.

The chart above shows that a good majority of the respondents (63.1 percent) claimed that ICT use has not led to any significant improvement on how they carried out their responsibilities. Only 29.7 percent (less than one third of the total respondents) believed that ICT has aided their work.

This response did not really come as a surprise, considering that most of the respondents did not have access to ICT facilities, because such facilities were not available at their SMEs. Also, this finding is really a minus for the SME policy realization, for such a policy could hardly be achieved, or even pursued successfully when the needed facilities (ICT for one) were neither available nor accessible to SMEs staff.

Whether Potential Benefits of ICTs Were Being Under-Utilized in the SMEs

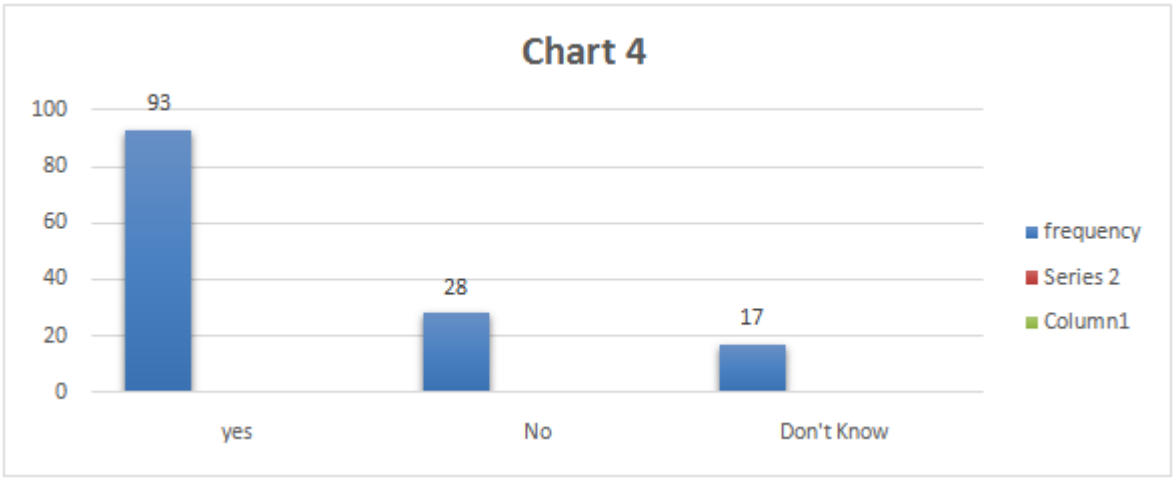

Chart 4.

As revealed by the chart above, two –third (67.4 percent) of the respondents gave a thumb down to ICT utilization in their SMEs that, is they were of the opinion that the SMEs were not utilizing the potential benefits of the ICTs. Only 20.3 percent (less than one-third) of the respondents believed that the potential benefits of the ICTs were not being underutilized.

The above finding is equally an indication that the SMEs policy was being threatened. Lack of utilization which was a consequence of non-availability would most likely hamper the realization of SMEs policy. The reasons for the limited utilization as cited by the respondents were all related to non-availability of the ICT facilities, as well as non-availability in the few SMEs that manage to acquire the ICT facilities.

In a nutshell, the respondents cited the following major problems faced by their SMEs in the area of ICT application include:

- Poor funding, i.e., most of the SMEs were poorly funded, hence could not afford many of the ICT facilities.
- Power failure: even where the ICT facilities were available frequent power outage usually affected their services. Many of the SMEs relied on generators for daily operations.
- Lack of trained personnel and expertise to man some of the ICT facilities.
- Poor maintenance of the existing ICT facilities.
- Lack of coherent ICT policy.

4. Summary of Findings

A number of significant findings have been made from the data presented and analyzed. The major ones are as follows:

- The SMEs in Abuja, Nigeria did not seem to be doing much in terms of meeting up with the requirements of ICT infrastructures. A visit to the offices and site of the SMEs showed that the necessary and relevant ICT infrastructures were conspicuously absent, save for facilities such as computers, which were mainly used for office work. That much was corroborated by the staff of the SMEs sampled.
- This seeming lack of readiness to acquire and install the necessary and relevant ICT infrastructure is depriving the SMEs with the efficient and enhanced services associated with the ICT. Absence or insufficiency of the ICT has actually been negatively impacting on the operations of the SMEs.
- The level of computer literacy among the staff of the Abuja SMEs appeared to be high – even higher than the national average. However, most of the staff had no access to basic ICT infrastructure at their work places. Indeed, there was limited diffusion of ICT within the Abuja SMEs.
- Computer – though found in virtually all the SMEs offices – were however often not connected to the information super highway. This clearly shows that most of the SMEs had no access to the Internet, notwithstanding its immense benefits. Similarly, most of the Abuja SMEs did not enjoy the services of Local Area Network (L.A.N.), with which to facilitate communication within and outside their organizations.
- Also, though a great number of the staff of the Abuja SMEs were computer literate, most of them had no personal or shared access to computer. This is notwithstanding that almost all the SMEs enjoyed the services of computers. The logical explanation is that only secretarial staff had access to the computers. It goes without saying that lack or limited access to computer underscores poor commitment to ICT generally.
- Not surprisingly, majority of the respondents admitted that application of ICT in their SMEs was generally inadequate. It could not have been different in the face of poor ICT infrastructure, unavailability of basic ICT facilities and lack of access by staff to the limited ICT that was available.
- The SMEs staffs were of strong view that ICT was essential in enhancing business operations, customer and client satisfaction. They were also firm in their belief that ICT was a tool for reforming market structures and business strategy. They were equally of the opinion that ICT could be used to speed up operations, eliminate duplication of efforts and reduce paper work. There is, therefore an obvious disconnect between what the SMEs staff expected and the reality on ground.
- Probably due to unavailability and limited application of ICT, most respondents conceded that ICT use has not led to any significant improvement on how the SMEs carried out their activities. This is really a minus for National ICT Policy which has been out to ensure ICT compliance and application at work place within the shortest possible time. The policy seems to be a far-fetched ideal.

5. Conclusions and Recommendations

The small-scale enterprises often target grassroots business and finance. They exist to provide much-needed capital and impetus to small business groups. In so doing, they necessarily require the services of ICT. In any case, it is generally believed that ICT facilities make work faster and better, speed up operations, eliminate duplication and reduce paper work, etc. Regrettably however, the SMEs studied here betrayed an appalling lack of ICT facilities, hence limited application of same. Expectedly, their services and operations were being hampered due to this abysmally low ICT application. It is equally regrettable that this state of affairs exists in spite of a National Policy on Information Technology.

Overall, however, and as revealed by the study, lack of ICT infrastructure (due to poor funding and sundry reasons) seems to stand between Nigeria SMEs and better services accruing from ICT. Based on its findings the study recommends as follows:

- Nigeria should strive to strongly position itself to meet up with the requirements of ICT infrastructure, with specific reference to the SMEs in Abuja and elsewhere. Their present state in terms of ICT facilities is, to say the least, deplorable, and the trend needs to be urgently reversed.
- The SMEs and to, as a matter of necessity, equip themselves adequately with all ICT facilities, not just basic office tools. For example, such relevant ICT gadgets as Internet facilities, videoconferencing facilities, facsimile, e-mail, telex, etc.
- Computers at all Abuja microfinance banks should necessarily be connected to the information super highway. In the same vein, all Abuja SMEs should henceforth enjoy the services of Local Area Network (L.A.N.) in order to facilitate and enhance communication from within and without.
- The Abuja microfinance banks should urgently ensure that all or, at least, most of their staff henceforth have access to personal or shared access to computers which have been hooked to the Internet.
- Government should extend the hand of assistance to SMEs, particularly with a view to improving their funding and financing capacity.
- The energy sector needs to be urgently over-hauled to ensure constant and uninterrupted electricity supply, lack of which greatly and severely hampers day-to-day

operations of the SMEs (particularly ICT services).
- The Abuja SMEs should train or engage the services of expert personnel to man their ICT facilities.
- The National Policy on ICT should be amended to embrace government directly procuring or subsidizing ICT facilities for SMEs.

Based on that, increasing the e-readiness of medium sized firms would require heavy investment in human capital, to be complemented by raising awareness and upgrading levels and types of connectivity. For small firms, priority should be directed to increasing awareness of the role of ICT, together with improving e-infrastructure and human capital. It would be beneficial for small and medium firms to work in clusters in order to benefit from economies of scale. There is a wide scope for public/private partnerships to raise the level of e-readiness for small and medium enterprises in the economy. Such projects should be placed as priorities on the development plan and donor support agenda.

A final point emerging from this study is that the SMEs surveyed are low on their e-readiness not only because of the low level of their e-infrastructure, but because of the more serious barriers related to awareness and human capital. By the same logic, SMEs development in general and their e-readiness in particular will be affected by traditional old economy challenges such as financing issues, legal infrastructure, policy setting and the business environment. One might then extend the micro e-readiness concept to include such old economy challenges that will affect SME e-readiness. Given that the Information Society entails maintaining a smooth interaction between "new" and "old" economy, as well as developing the "e" and the "non-e" components, a comprehensive micro index for e-readiness is a challenge that is worth pursuing. This will be the subject of future research.

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