



Full Length Review Article

**INFORMATION AND COMMUNICATION TECHNOLOGY AND THE PERFORMANCE OF SELECTED
SMALL AND MEDIUM ENTERPRISES IN ONITSHA METROPOLIS**

Dr. Onwuka Ebele Mary, *Uzor Ernest Ifeanyi and Dr. Onwuzuligbo Leonard

Department of Business Administration, Faculty of Management Sciences, Nnamdi Azikiwe University, Awka

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ABSTRACT

This study investigates information and communication technology (ICT) and the performance of selected Small and Medium Enterprises (SME) in Onitsha Metropolis. It is observed that despite the enormous benefits derived from ICT in the field of business, trade, industry and commerce the adoption level is relatively low in Nigeria when compared to development countries. The general objective of the study is to examine the contribution of ICT to the performance of selected SMEs in Onitsha metropolis. The study seeks to find out specifically the extent to which ICT affects the knowledge capability of SME employees. The study is anchored on Cooper and Z Mud's theory of Information Implementation process. The study employed descriptive research design; primary sources of data are the major instrument used for this study. Pearson's product moment correlation was used to analyze the data. The findings reveal that there exists a significant relationship between ICT and the knowledge capability of the SME employees in the selected organizations. Base on the findings, the study recommends that the operators of Small and Medium Enterprises should embrace the use of ICT in the business operations and government should provide ICT infrastructures that will facilitate business efficiency.

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INTRODUCTION

There has been a supposition that despite the advances in Information and Communication Technology (ICT) and the acceptance of such technologies by large organizations, the same level of adoption is not evident among small and medium enterprises (SMEs) in Nigeria (Ladukun, Osunwole and Olaoye, 2013). Many SME operators are unfamiliar with operating a computer and are skeptical of the benefits and value it gives to the business and have the notion that ICT is only for larger companies, even when they have the strength and financial resources to integrate ICT into their core businesses (Okwuonu, 2013 in Ladukun *et al.*, 2013). SME operators are often at a loss when the need arises to choose the most appropriate and cost efficient product. Okwuonu (2013) posits that most Nigerians could not participate in the international markets from the comfort of their offices and rooms due to erratic supply of electricity, dearth of adequate ICT facilities and the enabling environment that supports e-business. Low participation in international market means low transactions and low contribution to the global economy.

Moreover, it has been found that inspite of the exponential growth of ICT within the SMEs, the rate of its adoption remained relatively low (Macgregor and Vrazalic, 2005 in Olise Anigbogu, Edoko and Okoli, 2014). Large scale organizations have rather noticeably profited more than SMEs in both ICT enabled improve sales and cost savings (Riqueline, 2002 in Olise *et al.*, 2014). Adenikunju (2005) advocates that problems relating to SME sector in Nigeria and its development have been handled inappropriately by the government and highlights problems such as infrastructural and cultural factors, as acting against the effective development and exploitation of ICT.

Apulu and Lathan (2009) stated that majority of Nigerian SMEs are not utilizing ICT which is the foundation of e-business, due to some major barriers, electricity infrastructure, poor service from internet service provider (ISP), lack of education, cost of training and maintenance and lack of support from government and banks. But with the use of ICT, weak players in the economy can be empowered by providing them with information, communication and knowledge they could not access before. This enhances the competitiveness of small and medium sized enterprises (SMEs) and can enable them establish their presence on the internet and use it to communicate with suppliers and customers to search for

***Corresponding author: Uzor Ernest Ifeanyi,**
Department of Business Administration, Faculty of Management
Sciences, Nnamdi Azikiwe University, Awka.

business information and to advertise their products (Okwuonu, 2013 in Lodukun *et al.*, 2013). Olise *et al.* (2014) observed that despite the enormous benefits derived from ICT in the field of business, trade, industry and commerce, a number of authors still report that the adoption level is relatively low in Africa when compared to developed countries. This low adoption of ICT no doubt lead to thwarted and little growth of the SMEs (Attom, 2013). Large Scale organizations have rather so noticeably profited more than SMEs in both IT-enabled improved sale and costs savings (Riqueline, 2002 in Olise *et al.*, 2014).

Apulu and Lathman (2009) stated that majority of Nigerian SMEs are not utilizing ICT which is the foundation of e-business, due to some major barriers, electricity infrastructure, poor service from Internet Service Provider (ISP), lack of education, cost of training and maintenance and lack of support from government and banks. It is in the light of that this paper seeks to identify the extent to which ICT affect the knowledge capability of SME employees in Onitsha Metropolis. The general objective of this study is to examine the contribution of information and communication technology to the performance of selected Small and Medium Enterprise in Onitsha Metropolis. The specific objective is to determine the nature of relationship between ICT and the knowledge capability of SME employees.

Research Question

How does ICT affect the knowledge capability of SME Employees?

Hypothesis

H₀: There is no significant relationship between ICT and the knowledge capability of the SME Employees.

Review of Related Literature

Conceptual Review

The definition of SMEs is differs from the country to another but is often base on employment, assets or a combination of both also there is no general acceptable definition of SME. (Ladokun, Osunwole and Olaoye 2013). The National, council on industry as cited by Udechukwu (2005) defined Small and Medium Scale Enterprise (SMEs) as follows: Small scale industry is an industry with labour size of 11-100 workers or a total cost of not more than N50, million including working capital but excluding cost of land, while medium Scale Enterprise is an industry with a labour size of 101-300 workers or a total cost of over N50 million but not more than N200 million, including working capital but excluding cost of land. The National Association of small and medium Scale Enterprise (NASME) as cited by Udechukwu (2005), defines a small scale Enterprise as a business with less than 50 people employed by the enterprise and with an annual turnover of N100,000 million naira. NASME further define a medium scale enterprise as a business with less than 100 employees and with an annual turnover of N500 million naira.

The Small and Medium Industry Equity Investment Scheme (SMIEIS) and the Central Bank of Nigeria (2001), as cited by Irefin, Abdulazeez and Tijani (2012) small scale industry has a total capital employed of over N1.5M but not more than N50M, excluding the cost of land and working capital with labour size of 10 to 100 workers while medium scale industry has total capital outlay of over N50M but not more than N200M excluding the cost of land and working capital and labour size of between 100 to 300 workers. Ashrafi and Murtaza (2008) refer ICT as any technology that enables communication and electronic capturing process and transmission of information, technology include product and service such as desktop, computers, laptop, hand held devices, wired or wireless internet, business productivity software such as text editor and spreads enterprise software, data storage, security and network. Yu (2010) considers ICT as a range of technologies that allow the gathering, exchange retrieval, processing and transmission of information. He further described ICT as any tool that facilitates communication, process and transmits information and share knowledge through electronic means.

Rwashana and William (2006) advocate that ICT encompasses a range of electronic digital and analog devices such as radio, television, telephone (fixed and mobile), computer, electronic-base media such as digital text and audio-video recordings and the internet, but exclude the non-electronic technologies. Ning, Fan and Feng (2014) define knowledge capability as the total assets and knowledge operating capacities of organization. Knowledge capability is dynamic which will reconstruct with the change of the environment and also it centered on four field of development; individual technology, organizational technology, individual skills and behaviour, and organizational skills and behaviours

Theoretical Framework

This study is anchored on the theory of information technology implementation process model (Cooper and Zmud 1990). The purpose of the model is to offer a directing and organizing framework for ICT implementation research. The model comprises six stages, namely, initiating, organizational adoption, adaptation, acceptance and adoption, reutilization and infusion. Thus, the model covers an implementation process from the scanning of organizational needs, to a full and effective use of technology in daily practice. The model also identifies five conceptual factors which impact on process and product in each implementation stage, they are the characteristics of the user community, the organization, the technology being adopted, the task and the organization environment. The relevance of the theory for the study is on the organizational change, innovation, and technology diffusion ideas that will enable the SMEs to embrace ICT.

Empirical Review

Ladokun, *et al* (2013) investigates the factors affecting ICT adoption by SMEs in Nigeria. The found that that infrastructure is one of the most factors that inhibit ICT adoption by SMEs in Nigeria with highest mean followed by government policies, management support, level of security, maintenance cost skills and training and investments cost respectively.

Agboh (2015) examine the drivers and challenges of information and communication technologies (ICT) adoption by Small and Medium Size Enterprises (SMEs) in Morgan State Universities, Accra, Ghana. The study found that the key challenges to ICT adoption as lack of internal capabilities, high cost of ICTs equipment, poor infrastructure, financial constraints and lack of information about suitable ICT solutions and lack of time to implement. The study also identified the key drivers of ICT adoption as the desire to increase customer service and responsiveness, increase ability to compete, improve overall communication, increase sales and profit, and to have better access to information.

Apulu and Emmanuel (2011) carried empirical study to investigate reasons for non-utilization of ICT by SMEs in Nigeria. The found that majority of Nigeria SMEs utilizes basic ICT such as word processing, fixed landlines, printers and fax machines but rarely use the computer for advance, functions such as business analysis, planning and decision making. There are other key factors that inhibit these SMEs from effectively utilizing ICT in their various business, electricity and infrastructural inadequacy. Oladejo, *et al.* (2014) carried out an empirical study to investigate the Strength of ICT adoption on performance of food and beverages SMEs operation. Data collected were coded and analyzed using frequency table and simple percentage while non-parametric statistic test, ANOVA was used to test the formulated hypothesis using SPSS analysis package. The study concludes that ICT has a positive effect on the performance of selected SMEs in food, fruit drink and beverages firms operation in Nigeria. Mahmoud, Umar and Usman (2014) examine the implication of information and commutation technology (ICT) infrastructure in Nigeria SME, the study employs opinion survey. Analysis of data was conducted using tables and charts. They found that SMEs in Nigeria did not seem to be acquiring relevant ICT infrastructures. La, (2007) investigated the factor inhibiting ICT diffusion and intensive utilization, he found that one of the major factor is poor physical infrastructure.

Olise, *et al.* (2014) examine the determinants of ICT adoption for improved SMEs performance in Anambra State. The study provides empirical evidence on levels of awareness and adoption patterns of ICT facilities among SMEs, it evaluates factors influencing ICT adoption in the SME sector; and also assess the impact of ICT adoption on SMEs performance. The found that there is significant difference in the levels of awareness and adoption patterns of ICT facilities among SMEs, also capital base, turnover, and asses value of the business investigated have significant influence on ICT adoption. The studies referred to in this empirical review is on the impact of adoption of ICT by SMEs.

Others investigated the factors affecting ICT adoption by SMEs. None of these emphasized on the ICT and performance of SMEs in Onitsha Metropolis. Thus, this study will attempts to add to the body of studies by highlight the need for effective ICT adoption and reduce barriers to the adoption and recommendation that will close the gap of ICT challenges and government supports.

MATERIALS AND METHODS

The study employed descriptive research design whose purpose is to collect detailed and factual information that describes an existing phenomenon. The population of the study comprises the owners and the employees of four selected SMEs in Onitsha Metropolis. The SMEs are into chemicals, communication equipments, toys and baby product and manufacturing. Eight persons from each SME were selected, given the total of 32 persons which is the sample size for the study.

Data for the research was collected using primary source. The primary data involve the use of questionnaire. The questionnaire was structured; the respondents were placed on a five point likert scale. The questionnaire items were adopted and modified from existing standardized items, the questionnaire was given to experts in management to vet. Research fellow with proficiency in data analysis was also contacted to verify the face and content validity of the items, while Pearson product moment correlation was used to test the hypothesis; The reliability test of the questionnaire was done with the aid of SPSS, the text result below shows the computed Cronbach's Alpha value. The Cronbach Alpha value was .761 which means that 76.1% of the variance in the scores is reliable variance.

Data Analysis

Research Question

How does ICT affect the knowledge capability of SME Employees?

Test of Hypothesis

H₀: There is no significant relationship between ICT and the knowledge capability of the SME Employees.

Result of the correlations

The results shown in Table 3.9 above showed a correlation value of 0.639 with a p-value of 0.000 implying that the null hypothesis is rejected at alpha equals 0.05.

Descriptive Statistics for dependent variables

	N	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance	Remarks
Your organization knows the importance of ICT facilities.	30	4.00	5.00	141.00	4.7000	.46609	.217	Accepted
Information and Communication Technology is essential in enhancing business operation, customer and client's satisfaction.	30	3.00	5.00	135.00	4.5000	.68229	.466	Accepted
The potential benefits of ICT are being under utilized by SMEs due to lack of awareness.	30	3.00	5.00	137.00	4.5667	.67891	.461	Accepted
The infrastructures are put in place by government to enhance the usage of ICT by SMEs	30	4.00	5.00	144.00	4.8000	.40684	.166	Accepted
Lack of access to free Wifi band width for computers underscores poor commitment to ICT especially in the internet use.	30	1.00	5.00	142.00	4.7333	.78492	.616	Accepted
Valid N (listwise)								

Source : SPSS Ver. 20

Table 4.0. Descriptive Statistics for independent variables

	N	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance	Remarks
ICT facilities improve the knowledge capability of SME employees.	30	3.00	5.00	143.00	4.7667	.50401	.254	Accepted
The benefit derived from the use of ICT by SME employees outweigh its cost.	30	4.00	5.00	141.00	4.7000	.46609	.217	Accepted
Information and communication technology are quick response to inconveniences arise from increase competitive market.	30	3.00	5.00	127.00	4.2333	.50401	.254	Accepted
Limited knowledge of ICT and low level of computer literacy affect SMEs operator investment in ICT	30	2.00	5.00	124.00	4.1333	.62881	.395	Accepted
Lack of skill and trained personals are the main factor affecting the SMEs in adopting ICT	30	1.00	5.00	133.00	4.4333	.97143	.944	Accepted
Valid N (listwise)								

Source: SPSS Ver. 2

Table 4.1. Descriptive Statistics

	Mean	Std. Deviation	N
ICT	4.6600	.39357	30
knowledge capability	4.4533	.39281	30

Table 4.2. Correlations

		ICT	knowledge capability
ICT	Pearson Correlation	1	.639**
	Sig. (2-tailed)		.000
	Sum of Squares and Cross-products	4.492	2.864
	Covariance	.155	.099
	N	30	30
knowledge capability	Pearson Correlation	.639**	1
	Sig. (2-tailed)	.000	
	Sum of Squares and Cross-products	2.864	4.475
	Covariance	.099	.154
	N	30	30

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

We can then conclude that there exist a significant relationship between ICT and the knowledge capability of the SME Employees in the selected organization.

Findings

The result of the correlation is 0.639. It shows a strong positive relationship between ICT and knowledge capability of SME employees. This shows that ICT has strong effect on the knowledge capabilities of Small and Medium Scale Enterprise in Onitsha Metropolis. This further reveals that Information and Communication Technology contributes to the performance of Small and Medium Enterprises in Onitsha Metropolis. This is in line with Oladejo *et al.*, (2014) who found from their study that ICT has a positive effect on the performance of selected SMEs in food, fruit drink and beverages firms operation in Nigeria. The authors further stated that adoption of quality technologies such as internet, mobile telephone and broad based network in many developed countries has been found to have positive effect on the organization performance.

Conclusion

Base on the findings obtained from the result of the correlation. There is empirical evidence that ICT has a positive effect on the knowledge capability of SME employees. ICT is regarded as a vital tool for efficient management of any organization and also in delivery of service to its customers. SMEs are driven to adopt appropriate ICT for the purpose of improving their internal process, improving their product through faster communication with their customers and better promoting their product, distributions and services through online presence (UNCTAD 2004)

Recommendations

In view of the above findings the following recommendation are suggested.

1. **The need for total adoption:** The operators of Small and Medium Enterprises should embrace the use of ICT in their business operations.

2. **Development of Infrastructure:** The government should make business environment enabling by providing ICT infrastructures that will facilitates business efficiency.
3. **Creation of Awareness:** Government and Banks should ensure that an enlightenment campaign is carried out to educate the SMEs on the importance and relevance of ICT equipments to increase the operational effectiveness.

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