The role of information and communication technology (ICT) in the development of small scale enterprises: evidence Enugu state, Nigeria

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ABSTRACT
The purpose of this study is to determine the role of ICT in development of small and medium scale business in Enugu metropolis. The survey research method was considered appropriate and was adopted for the study. A sample of respondents was randomly selected from the study population which comprised all small business proprietors registered in Enugu. Data were collected from
both primary and secondary sources. The major instruments for data collection is questionnaire. Data were presented in tables as frequency distribution. In the analysis, the techniques of percentage and frequency were applied. The Z -- test was applied in testing the hypotheses. The major findings of the study include low awareness and adoption of ICT by small business operators. ICT facilitates information management and volume of business information, access to global markets and speedy communication of business information. It also expands market, reduces transaction costs and open new sources of supply, markets and customers for small businesses.

**Keywords:** ICT; business; SSE; development, enterprise, role

1. **INTRODUCTION**

We cannot overemphasise the role Information and Communication Technology (ICT) plays in enhancing and developing business activities. The small and medium business sector is one of the critical sub-sectors of the Nigerian economy whose contributions to the pace of business development and economic growth cannot be adequately quantified (Amadi, 2002). Challenges in today's modern world reveal that the preponderance of natural factors cannot equip the small business sub-sector entirely to grapple with existence of global competition. Information, flexibility and fast response are the key new factors for coping with global competition and information communication technology plays a critical role in these areas.

Effective communication links and computerised system are a *sine qua non* for business development; small, medium and large business alike (Ayozie, Oboreh, Umukoro, & Ayozie, 2013). ICT permeates the business environment. It underpins the success of modern small businesses and provides them with efficient infrastructure (Cannon, 2004) at the same time; ICT adds value to the processes business planning and management. With instantaneous access to information, identified problems are disseminated throughout a global network thereby ensuring efficiency, competitiveness and strengthening of national service quality. According to Forest (2006), ICT transform the way entrepreneurs do things, increasing the amount of information available to them, information intensity of processes, products and economics of scale. It enhances workings of the market, reduces transactions and coordination costs within and across the small and big business.

This radical transformation is a boost to efficiency because it will produce improvements in entrepreneurial activities, achieve minimum wastages and reduced costs in production (Ndukwe, 2003). Thus takes place when changes in the organisation of production and distribution are beneficial to the small business enterprise. Efficiency can occur at the levels of production, exchange and output mix in the firm. The usefulness of ICTs in small business development lies not so much in its size per se, but in the changes, it can bring to bear on the functioning and operations of small businesses in which they have been deployed (Hanson, 2001).

As the use of ICTs spreads in advanced countries, enterprises, especially small businesses in developing countries are being compelled to incorporate ICTs in their business. The adoption of ICTs by small businesses in Nigeria is almost in all fields of economic and commercial endeavours. These include production, marketing, travel and tourism, professional services, among others (Ugbaja, 2008). Apparently, the level of adoption of ICTs in the small business subsector is increasing as most of them are fast deploying the facilities and going online in the conduct of their business. Expectedly, most of this growth is mainly in the areas of commerce and financial services.

In Nigeria, there is a need for the use of ICT in small business subsector because of the enormous advantages associated with ICTs deployment in business. Against this background, therefore, this study is set to examine the role of ICTs in small business in Enugu Metropolis.

Small business face some challenges in adopting ICTs in their operations of activities for effective use of modern ICTs; computer literacy is paramount. Unfortunately, individuals who are not computer literate run a large number of small businesses. Many people are not even aware of information technology applications to business operation. This unawareness hinders the development of ICTs in their little businesses.

Besides, some ICT hardware are costly and may not be affordable even by some of those who are computer literate. The costliness of some ICT products hinders their deployment in small businesses. Furthermore, ICT products require adequate electricity supply to function effectively. But, epileptic power supply and the high cost of gasoline hinder their installation in small businesses.

**Objectives of the Study**

The objectives of the study are;

1. To ascertain the level of awareness of ICT applications in business among small business operations in Enugu.
2. To assess the level of adoption of ICTs in small businesses in Enugu.
3. To identify the types of ICTs adopted by small businesses in Enugu.
4. To examine the role of ICTs and information management in small business.
5. To determine the impact of ICT on small business development

Hypotheses
The following hypotheses are postulated for this study;

1. \( H_0 \): the level of adoption of ICT in small businesses is significantly low  
   \( H_1 \): the level of adoption of ICT in small business is significantly high
2. \( H_0 \): the use of ICT does not facilitate access to global business information  
   \( H_1 \): the use of ICT facilitates access to global business information
3. \( H_0 \): ICT does not enhance small business development  
   \( H_1 \): ICT improves small business development

Significance of the Study
This study is significant in many respects. First, it will be found useful not only to small business operators but medium and large business operators. The usefulness here is because the study will give a full exposition of the benefits of ICT applications in modern business operations. It will appeal to them and make them adopt ICT in their business planning and transactions. Secondly, customers and clients will through this study see the need and benefits to transact their purchases from their firms of activities on-time.

Third, the study will examine and identify the factors militating against effective use of ICT in the business sector. It will enable the government to take urgent steps in addressing these problems so as to encourage and enhance the use of ICT generally in the business sector.

Fourth, it has been seen that computer literacy level is very low in the country and this adversely affects the application of ICT in business activities. This will appeal to our educational authorities to inculcate ICT education in our school curriculum at all levels of education. This will be beneficial to the business sector.

Finally, the study will be useful for academics purposes. It will serve as a useful material to those who carry out related studies in the future. Futhermore, the research findings can serve as the basis for further studies in related fields. This study focuses on the role of ICT in small business development in Enugu State.

2. LITERATURE REVIEW

Information and Communication Technology (ICT)
ICT is the process of communicating information through technological means. It is the latest handling of information by electronic means which involves access to storage of processing, transportation or transfer and delivery (Cannon, 2004). It is the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a microeconomic-based combination of communication and computing technologies and its uses or application for Intranet, Extranet, Internet, World Wide Web (www), Visual reality, Cyberspace – the new digital mentality and culture.

In line with the above, Iruoje (2010) states that ICT is often used in the place of Information Technology (IT) but is a more general term that stresses the role of telecommunications in modern IT world. ICT consists of all technical means used to handle information and aid communication, including computers and network hardware as well as necessary software (Celebic & Rendulic, 2011). In other words, ICT consists of IT as well as telephony, broadcast media and all types of audio and video processing and transmission (Jean-Marie, 2004). The term ICT is now also used to refer to the merging (convergence) of telephone networks and computer networks via a single link or cabling system.

In the same manner, Jinghan (2006) states Communication Technology involves the hardware (physical) devices and software programmes that link (connect) various computer hardware components and transfer data from one physical location to another. Connectivity has hastened the use of electronic delivery channels. Lindsay (2007) describes Telecommunication as the transmission of messages, over significant distances for the purpose of communication. In the modern age of electricity and electronics, telecommunications have typically involved the use of electrical means such as telegraph, the telephone, and the teletype, the use of microwave communications, the use of fibre optics and their associated electronics, and the use of the internet (Agwu & Emeti, 2014).
ICT and Business Development

McGregor (2001) states that the field of commerce comprises some techniques and responsibilities which aim at attracting new customers and penetrating existing markets in the course of business development. Business development involves evaluating a business and realising its full potential, using tools such as marketing, information management and customer service.

For larger and well-established firms, especially in technology-related companies, the term “business development” often looks at setting up and managing strategic alliances relationships with other, third-party corporations. Linert (2005) remarks that in these instances the organisations may leverage each other’s technologies expertise or other intellectual property to increase their capacities for researching, identifying, analysing and initiating new markets, new businesses and new production through ICT applications.

Various empirical studies have been conducted on the role and impact of ICT on business development and the efficiency of economic sectors. Various scholars such as Fieldman (2005) and Jinghan (2006) have been engaged in discourse on the role of ICTs in business development and the gains emanating from the utilisation of ICTs in enterprises. There seems to be an agreement among them that there is a correlation between use of ICTs in business development and the gains emanating from the utilisation of ICTs in enterprise. There seems to be an agreement among them that there is a correlation between use of ICTs, efficient information management and business planning. Iruoje (2010) and Hanson (2001) also found that the adoption of ICTs has opened up new sources of supplies, markets and customers for businesses that deployed various ICT infrastructures and facilities.

In his work on ICT and e-commerce, Okafor (2002) outlines the role of ICT in e-commerce which is a modern business transaction technique as:

i. Ability to conduct business any time of the day, week, month and year. (the 247 – twenty-four hours a day, seven days in a week)
ii. Access to global market in a globalised world
iii. Speedy information communication across the business world
iv. Expanded market space due to web – based businesses
v. Reduced costs of business transaction due to internet use
vi. An efficient applications development environment.

In related work, Ndukwe (2003) expresses that ICT has played significant role in the development of the following areas of business:

a. Manufacturing: telecommunication facilities communication on real-time basis regardless of the distance between suppliers. Consequently, it enhances product development, reduces transaction costs, reduces time to market and confers a competitive advantage on the manufacturers. Uduma (2008) notes that the traditional manufacturing concerns in Nigeria are increasingly exploiting the Internet especially in dealings with overseas business counterparts. However, it is observed that the level of interaction with local business has been limited by factors including inadequate awareness of the power of the Internet for local business transactions.

b. E-commerce: Ndukwe (2003) expresses that ICT has promoted e-commerce significantly. Some of the most commonly traded products and services involving e-commerce include computer software, entertainment equipment, (motion pictures, videos, games, sound recording). Also, information services (databases, online newspaper), technical information, product licenses and professional services (business and accounting, and accounting, technical consulting, architectural design, travel services, legal advice, etc.)

The financial services industry in Nigeria has utilised e-commerce potentials more than any other industry. According to Akwue (2008), these include the smart electronic technologies like the mobile and internet banking platforms. There are equally arguments as to the usefulness of e-commerce in trading of goods and services.

c. Travel and Tourism: Ndukwe (2003) remarks that this business sector is an information and communication technologies, most commonly the internet and Computerised Reservation System (CRS) have found great relevance. CRS have led to a reduction in cost and improvement in productivity in this sector. ICTs, are acknowledged to improve the quality of service and personal touch in this area.

d. Health Care: according to Ndukwe (2003), a useful application of Telecommunication in healthcare is in the field of telemedicine. X – rays, charts, photographs, etc can be sent via telecom networks (like taking pictures and scanning images to be sent via emails) in useable forms to a specialist, consultants in far away locations to make a diagnosis and prescribe treatment.

Telemedicine improves universal access to healthcare facilities especially in countries where medical facilities are few outside the major cities and Medical Doctors are reluctant to make visits far from hospitals.
Small and Medium Scale Enterprises

Many countries have defined Micro, Small and Medium Scale Enterprises (MSMSEs) by setting an upper limit to the number of employees and even classified MSMSEs by the level of initial fixed investments or assets. Although researchers and policy makers have not agreed on a single objective definition of the small enterprise, a wide range of criteria has often been used including the capital base, the relative size or the firm. Although the number of employees seems the most common benchmark for definition, the actual cut-off number varies among countries (Doyles, 2007).

In the United States of America, the benchmark ranges from 100 to 1,500 employees. According to Doyles (2007), the ranges in Netherland are between 50 and 100 employees. Probably, due to differences in policy focus, different government agencies in Nigeria have given varying definitions to the concept of small-scale enterprise (Abdullahi, et al., 2015). Thus, the Central Bank of Nigeria in its Credit Guidelines (for the purpose of grading loans) in 1989 defined Small Scale Enterprise (SSE) as a business firm with an annual turnover not exceeding N2 million. The Federal Government of Nigeria, that same year, in its industrial policy (and in the light of the Structural Adjustment Programme - SAP) defined SSE as an establishment with a total investment of land but including working capital (Amadi, 2002).

This was reviewed in CAMD, 1990 and a SSE was re-defined as one whose turnover annually is less than two million naira (N2m) and its net asset value is not more than one million naira (N1m).

The National Economic Reconstruction Fund (NERFUND) defines SSEs as those with total asset value (excluding land) of not more than ten million naira (N10m). The National Association of Small and Medium Scale Enterprises (NASME) defines it as a business that has less than one hundred and fifty million naira (N150m) in total assets and employees less than one hundred.

According to Adegbuyi, et al. (2016) an SSE is a business concern that has in its employ a range between 11 to 100 workers with a total business capital that is fifty million (N50m) or less, as well as working capital but does not include the cost of land on which the establishment is situated. Also, a Medium Scale Enterprises (MSE) is an enterprise industry with 101 to 300 workers in its employ with a total cost of more than fifty million naira (N50m) and less than two hundred million (N200m), which involves the working capital but not the cost of land.

However, the National Council on Industry (NCI) in 1992 worked assiduously towards harmonising and streamlining the definitional variations and finally articulated as well as structured an absolute definition of industrial enterprises to introduce uniformity and provided for its review every four years using the criteria of capital investment and employment to labour. The NCI’s redefinitions in 1996 according to Ugbaja (2008) are as follows:

i. Micro/ cottage enterprise is a business with total cost (including working capital, but excluding cost of land) not more than one million naira (N1m) with labour size of not more than ten workers;

ii. Small-scale enterprise is a business with total cost (excluding cost of land but including working capital) above N1m but not more than forty million naira (N40m) with a labour strength of between 11 and 35 workers;

iii. Medium-scale enterprise is a business with total cost (including working capital, but excluding cost of land) above N40m but not exceeding one hundred and fifty million naira (N150m) with a labour strength of between 36 and 100 workers; and

iv. Large-scale enterprise is a business with total cost (including working capital but excluding cost of land) above N150m and an army of labourers exceeding 100 employees.

Another revision was made in the year 2001 by Nzekwe (2003)

i. Micro/ Cottage enterprise is a business with total capital of not more than one million five hundred thousand naira (N1.5m), including working capital but excluding property cost (land) and or a labour size of not more than ten workers.

ii. Small-scale enterprise is a business with total capital of over N1.5m but not more than N50m, including the working capital but excluding cost of land and or labour size of 11 – 100 workers.

iii. Medium-scale enterprise is a business with total capital of over N50m but not more than two hundred million naira (N200m), including the working capital but excluding cost of land and or labour size of 101 – 300 workers.

iv. Large-scale enterprise is a business with total capital of over (N200m), including working capital but excluding the cost of land/ work strength of over 300 employees.

Comparatively, most developed countries concede that a maximum limit of 500 employees is attributable to a small firm (Fieldman, 2007). Other attempts at defining SMEs in Nigeria was also made and do not agree entirely with the official’s efforts given above. For instance, the Bankers’ Committee, in establishing the Small and Medium Industries’ Equity Investment Scheme (SMIEIS), defines SME as an enterprise with a maximum asset base of N200m, excluding land and working capital, employing not less than 10 and not more than 300 staff. This agrees entirely with year 2001 official definition of medium scale industry.

Also, some Nigerian scholars and economists have also given their definition of SMEs using other criteria. For instance, Agu (2001) developed a definition of small business which derives from the personal attributes of the proprietors than from the familiar
operational characteristics of turnover or asset base. According to this definition, an enterprise fits the small business classification if it has no publicly traded securities, the owner(s) have undiversified personal portfolios, and the proprietors are first generation entrepreneurs. The business prone to high risk-taking management is inadequately separated from the ownership, and there is a very high level of flexibility in designing the compensation scheme.

Okafor (2002) adopted a definition of SSEs close to that of Agu’s basic construct. According to this definition, an SSE is one independently prone and controlled by the owner-manager who is responsible for most important operational and policy decisions of the company. It is a first generation business (that is, under the management and monitoring of the founding entrepreneurs) and with the asset base and total capitalisation of less than N10m.

Anatomy of Small and Medium Enterprises

The features/characteristics of SMEs are as follows:

i. They are mostly family-owned and owner-managed. According to Nzekwe (2003), SMEs are usually family businesses established by a parent (father or mother). They are usually family owned, managed and controlled (Adegbuyi, Fadeyi, Keinde, & Adegbuyi, 2016).

ii. Most of the employees are family members. Also, other relatives are employed especially in MSE.

iii. SMEs operate on the informal platform. Nzekwe (2003) notes that there are informal relationships in SMEs. Just like all family-owned businesses, there are interpersonal relationships between the owner, manager and employees.

iv. SMEs have poor accounting and record-keeping as well as weak internal control arrangements. This is attributable to their platform and cosmetic business planning and management (Hanson, 2001).

v. SMEs are highly under-capitalised. They have the little financial strength and so do not have access to credit facilities of banks and other non-bank financial institutions. Their sources of finance are usually personal and family savings, borrowings from friends and relatives (Hanson, 2001).

vi. Business planning is cosmetic as sound management practices are lacking. According to Kelly (2002), they also require effective risk management practices.

vii. In SMEs, statutory matters are not usually given the desired attention. In Nigeria, for instance, SMEs do not find it expedient to pay taxes, publish annual report and statement of accounts, subject financial reports to auditing, etc. (Okafor, 2002).

viii. SMEs do not have staff training and development programmes. These are seen as avoidable cost.

ix. Management succession planning is lacking. Okafor (2002) also remarks that the question of who succeed the proprietor or proprietoress upon his or her death is not considered as the first son or family member usually inherits the business.

x. SMEs also lack vision and have weak customer care.

xi. SMEs have local areas of operation. This is because the owner – manager, employees and customers mostly live in the same vicinity (Adebusi, 2005).

xii. SMEs are also characterised by the production of traditional consumer goods particularly footwear, leather products and food products, metal working, textiles, etc. They are closely attached to the products that launched them, and because of informality, performance standards are almost absent (Etebefia & Akinkumi, 2013).

xiii. The production techniques of modern SMEs are characterised by organised factory type processing, employing reasonably high technology. According to Adebusi (2005) they can employ technical specialists to install equipment, and

xiv. The equity base of SMEs is usually relatively small.

The Role of Small Scale Industries in Nigeria’s Economic Development

The small scale industries have been recognised as contributing immeasurably to economic development in Nigeria through their various roles in the economy. Obi (2000) summarises these roles as;

- Promoting self-employment and employment opportunities, therefore, reduces employment level
- Providing the foundation for larger industrial concerns
- Providing managerial skills and personnel for large industries
- Improving peoples’ standard of living through their innovations and creations.

Supporting this assertion, Adebuyi (2000) recognises that the technological and organisational revolution now underway in Nigeria are not driven by significant capital-intensive industrial firms. Small and medium enterprises drive it. According to him, they serve dispersed local markets. They also provide differential products with low scale economy for niche markets. According to Ugbaja (2008) the small scale industries provide employment opportunities and increase the use of local raw materials. Besides they increase the volume of manufactured exports thereby contributing to the nation’s foreign earnings and reserves.
In his contribution, Okeh (2000) posits that small scale industries contribute immensely to improvement in technological skill and capability and because of their wide geographical spread they serve as a means of linking, hitherto, remote areas, thus contributing to national integration. Finally, he states that small scale industries contribute to the Gross Domestic Product (GDP). They currently account for about 70 percent of industrial employment and 10 – 15 percent of industrial output.

**Problems of Small Scale Enterprises (SSE)**

The SSEs are faced with so many problems which adversely affects their operations and performance. Many management experts have identified and analysed these problems. According to Nwosu (2008) these include;

i. Lack of Infrastructural Base; according to them, lack of adequate infrastructure constitute one of the greatest constraints to SSE development. Most of them resort to private provision of electricity, water etc most of them cannot afford to provide these adequately (Agwu & Emeti, 2014).

ii. Constrained Access to Credit; the banking sector is usually unwilling to extend credit to the small firms because of inadequate collaterals. As a result of working capital at their disposal is minuscule and does not allow for expanded operation (Akingunola, 2011).

iii. Procurement Problems; according to Nwosu (2008), this problem is traceable to unstable microeconomic policy which creates a scarcity of foreign materials in the face of sub-optimal local raw material supplies. Related to this is inaccessibility to and the high cost of equipment (Etebeña & Akinkumi, 2013).

iv. Insufficient Product Demand; this is attributed to low purchasing power arising from consumers dividing incomes (Adegbuyi, Fadeyi, Kehinde, & Adegbuyi , 2016). To circumvent this many of them adopt credit sale policy to work around the difficult process of debt recovery.

v. Poor Educational Background; lack of relevant educational background and thorough business exposure by many small business proprietors makes it difficult for them to plan and manage their business, effectively (Abdullahi, et al., 2015). This lack of managerial acumen does not make them sufficiently innovative and dynamic to meet growing business challenges.

**ICT and Small Business Development**

Studies have shown that in unorganised private sector, there is low level of adoption of ICTs in the operation of small scale businesses. However, over the years there has been increasing trend in adoption of ICT among small businesses in the organised private sector. On the role of ICT in small business development, Akwue (2008) stated that ICT enable small business to access relevant information for business decisions on purchases and supply, production and marketing. ICT opens up new sources of supply as well as new markets away from their locations. Forest (2006) states that facilities communication processes and reduces the costs of transactions for SMEs in the areas of document preparation, error detection and correction, reconciliation, mail preparation, telephone calls, data entry etc. These help to increase operational efficiency of such small businesses (Ayozie, Oboreh, Umukoro, & Ayozie, 2013). Similarly, Harvey (2000) states that ICT makes it possible for business to be open all through the day night. This means that a business can be open anytime and anywhere.

In recent times, efforts are being made to improved telecommunication services in the rural areas, hence the various Rural Telecommunications and Universal Service obligations and initiative. The uses and practical application of telecommunication in the operation of rural SMEs include;

- Easier and faster access to up – to – date market and price information thereby assisting rural based small busines owners.
- Better access to agricultural extension services such as prompt information on improved seeds, availability of fertilizers, weather forecasting and pest control.
- More rural business establishment and employment opportunities.

**3. METHODOLOGY**

The survey research design was adopted for this study. It is considered appropriate for the study because it enables the researcher to make personal contact with elements of the study population from whom information as collected directly for the study. The survey research necessitates that administration of questionnaires and conducting of interviews for the collection of the primary data used in the study. The data answered the research questions. The study was carried out in Enugu metropolis for the convenience of the researcher to access all the small business involved. It involved selected small businesses in the town, Enugu is the most populous commercial and industrialised town in Enugu State. The data used in this study were collected from both primary and secondary sources.
The study population consisted of all the small businesses in Enugu metropolis. As at the time of this study the number of registered small businesses in Enugu metropolis was 3,320 (Ministry of Commerce and Industry, 2015). Using the Taro Yameni formula for sample size determination a final size of 357 (approximately) was calculated and used. 357 questionnaires were self-administered to these organisations and collected after two days.

\[
\text{Taro Yameni formula } n = \frac{N}{1 + Ne^2} \quad \text{where } N = \text{population}; e = \text{level of significance}; 1 = \text{constant}
\]

**Test of Hypothesis**
The presentation and analysis of data can be found in the appendix while the hypotheses was tested thus, the Z-test was used involving the use of relevant data to compute the value of Z. The calculated result; 13.8 > 1.96 on the level of adoption of ICT in small business. Decision; we reject \( H_0 \) and accepted \( H_1 \) which states that the level of adoption of ICT in small businesses is still low. Also, on whether the use of ICT facilitates access to global business information, the calculated result; 14.2 > 1.96 means that the use of ICT facilitates access to global business information. Finally, on whether ICT enhances small business development, the result; 18.1 > 1.96 shows that ICT enhances small business development.

4. **OVERVIEW OF FINDINGS**
Most of the small businesses operating in Enugu metropolis are manufacturing, marketing distribution, extraction/processing, service providing, hospitality, transport and communication enterprises. Some of these ventures have adopted ICT in their business operations. The types of ICT adopted include internet, computers and tele-media. However, the level of adoption of ICT among these small businesses is not high.

The role of ICT in information management of small businesses includes facilitation of access to business information, facilitation of interpretation, analysis, storage and retrieval of business information. It also enhances the volume of information available to small businesses.

The impact of ICT in small business development include access to global markets, widening the market for small businesses, rapid communication of business information, reduction in the costs of business transactions and ensuring that business can be conducted anytime in the day or night. It also gives small businesses access to global business information and opens new sources of supply, new markets and customers.

5. **CONCLUSION**
The role of ICT in small business development cannot be overemphasised. This role centres essentially on access to and communication of business information. Not many small business operators are aware of ICT application to business in Enugu metropolis and, as a result, the level of adoption of ICT in small businesses is low. Nevertheless, the adoption of ICT has some positive implications for small business development. It gives access to and enhances local and global business information and markets for small businesses. It reduces transaction costs and also ensures speedy communication of business information. Also, ICT opens new sources of supply, new customers and market. In conclusion, adoption of ICT has impacted positively on small business development.

**RECOMMENDATIONS**
- There is a need for intensive awareness creation campaign for small business operators on the need for and use of ICT in business operations. All government agencies for small business development as well as all small business development associations should organise workshops to create this awareness among their members. They should also encourage their members to undergo ICT training.
- Small business operators should be encouraged to adopt ICT. This should be in the form of financial assistance to those who may not be financially strong enough to purchase ICT products.
- Small business operators should take advantage of ICT to reach out to other businesses spread across the globe. This will enable them to search for business information, markets, customers and opportunities outside their localities.
APPENDIX

Analysis of Data

The data collected are presented and analysed in line with the initial hypotheses of this study.

Table 1: Nature of the Small Businesses

<table>
<thead>
<tr>
<th>Options</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Manufacturing</td>
<td>76</td>
<td>21.3</td>
</tr>
<tr>
<td>b) Marketing/ Distribution</td>
<td>89</td>
<td>25.3</td>
</tr>
<tr>
<td>c) Extraction/ Processing</td>
<td>44</td>
<td>12</td>
</tr>
<tr>
<td>d) Service providing</td>
<td>108</td>
<td>30.7</td>
</tr>
<tr>
<td>e) Others</td>
<td>40</td>
<td>10.7</td>
</tr>
<tr>
<td>Total</td>
<td>357</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Field survey, 2015

On the nature of the small business enterprises, Table 1 Shows that 21.3% indicated that the nature of their enterprises is manufacturing. 25.3% indicated marketing/ distribution. 12% indicated extraction/ processing. 30.7% indicated service – providing while 10.7% indicated other forms of small businesses such as hospitality, tourism, transport and communication. Thus, implies that most of these small businesses are manufacturing, marketing/ distribution and service – providing organisations.

Table 2: Responses to whether they have adopted ICT in business operations

<table>
<thead>
<tr>
<th>Options</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Yes</td>
<td>357</td>
<td>100</td>
</tr>
<tr>
<td>b) No</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>357</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field survey, 2015

Table 2 shows that all the respondents agreed that they have adopted ICT in their business operation. Thus all the small scale enterprise owners and operators use one form of ICT or the other in the daily running of their business.

Table 3: Types of ICT product/ equipments adopted

<table>
<thead>
<tr>
<th>Options</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Internet</td>
<td>67</td>
<td>18.7</td>
</tr>
<tr>
<td>b) Computers</td>
<td>124</td>
<td>35.3</td>
</tr>
<tr>
<td>c) Fax Machines</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>d) Tele – media</td>
<td>59</td>
<td>16.7</td>
</tr>
<tr>
<td>e) All of the above</td>
<td>91</td>
<td>25.3</td>
</tr>
<tr>
<td>Total</td>
<td>357</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field survey, 2015

Table 3 shows that 18.7% indicated that the type of ICT they have adopted is the internet. 25.3% and 14% showed computers and fax machines. 16.7% indicated Tele – media while 25.3% indicated all of the above.

This implies that computers are the most commonly adopted ICT devices in small business subsector. While the list number still used the fax machine showing its out-datedness and also no longer in use in most big organisations.

Table 4 Responses to the level of awareness of ICT application among SME operators in Enugu

<table>
<thead>
<tr>
<th>Options</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) High level</td>
<td>102</td>
<td>28</td>
</tr>
<tr>
<td>b) Low level</td>
<td>255</td>
<td>72</td>
</tr>
<tr>
<td>c) Not at all</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
It gives access to global market
It widens market for small businesses

Table 4 shows that 28% indicated that there is a high-level awareness of ICT application among small business operators in Enugu while 72% indicated a low degree of awareness. None indicated ‘Not at all’. This means that most of the small business operators in Enugu are not aware of ICT applications in the conduct of business.

Table 5 Responses to the extent of adoption of ICT by small businesses in Enugu.

<table>
<thead>
<tr>
<th>Options</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Large extent</td>
<td>52</td>
<td>14</td>
</tr>
<tr>
<td>b) Little extent</td>
<td>251</td>
<td>71.3</td>
</tr>
<tr>
<td>c) Not at all</td>
<td>54</td>
<td>14.7</td>
</tr>
<tr>
<td>Total</td>
<td>357</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field survey, 2015

Table 5 shows that 14% indicated that the level of adoption of ICT by small businesses in Enugu is to a ‘Large extent’. 71.3% indicated that it is to a ‘Little extent’ while 14.7% indicated ‘Not at all’. The implication is that there is a low level of adoption of ICT in small business operations in Enugu. Most of the SMES are not ICT compliant. They still use other systems of communication.

Table 6: Role of ICT in Information Management

<table>
<thead>
<tr>
<th>Options</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Easy access to business information</td>
<td>66</td>
<td>18.6</td>
</tr>
<tr>
<td>b) Easy interpretation of information</td>
<td>58</td>
<td>16</td>
</tr>
<tr>
<td>c) Easy analysis of information</td>
<td>59</td>
<td>16.7</td>
</tr>
<tr>
<td>d) Easy storage of information</td>
<td>62</td>
<td>17.3</td>
</tr>
<tr>
<td>e) Easy retrieval of information</td>
<td>59</td>
<td>16.7</td>
</tr>
<tr>
<td>f) All of the above</td>
<td>53</td>
<td>14.7</td>
</tr>
<tr>
<td>Total</td>
<td>357</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field survey, 2015

From Table 6 it can be seen that 18.6%, 16% and 16.7% indicated that the role of ICT in information management is to ensure easy access, interpretation and analysis of information respectively. 17.3% and 16.7% indicated easy storage and retrieval of information respectively. 14.7% indicated ‘All of the Above’. This implies that adoption of ICT facilitates information management that is obtaining the use and storage of information.

Table 7: Responses to whether ICT enhances the volume of information available to small businesses.

<table>
<thead>
<tr>
<th>Options</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Yes</td>
<td>357</td>
<td>100</td>
</tr>
<tr>
<td>b) No</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>357</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: field survey, 2015

Table 7 shows that all the respondents agreed that ICT enhances the volume of information available to businesses. It is particularly true for those that have deployed the internet in their business. They can access a large volume of information within minutes from any part of the globe. Not only that, but they can also communicate a large volume of information to others.

Table 8: Impact of ICT in small business development

<table>
<thead>
<tr>
<th>Options</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) It gives access to global market</td>
<td>85</td>
<td>24</td>
</tr>
<tr>
<td>b) It widens market for small businesses</td>
<td>37</td>
<td>10</td>
</tr>
</tbody>
</table>
They can also obtain business information. They can also participate in global business through
ICT.

12.7% agreed that ICT facilitates small businesses access to global business information while 3.3%
agreed that ICT enhances small business development while 3.3% disagreed. ICT provides large
scale enterprises.

On the impact of ICT on small business development, the above table shows that 24% indicated that it gives access to global
markets. 10% indicated that it widens the market for small businesses. 20% indicated that it ensures speedy communication of
business information. 14.7% indicated that it reduces costs of business transactions. 16% indicated that it ensures that business is
carried out anytime in the day or night. 15.3% indicated ‘All of the above’. It implies that ICT facilitates the conduct of business
through speedy communication of business information, widening of market and reduction of transaction costs.

**Table 9:** Responses to whether ICT facilitates access to global business information.

<table>
<thead>
<tr>
<th>Options</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Yes</td>
<td>309</td>
<td>87.3</td>
</tr>
<tr>
<td>b) No</td>
<td>48</td>
<td>12.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>357</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: field survey, 2015

Table 9 shows that 87.3% agreed that ICT facilitates small businesses access to global business information while 12.7%
agreed. Small businesses that have adopted the internet in their business operations always have access to global business
information and market from where they can also obtain business information. They can also participate in global business through
the internet.

**Table 10:** Responses to whether ICT opens new sources of supply, market and customers.

<table>
<thead>
<tr>
<th>Options</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Yes</td>
<td>337</td>
<td>95.3</td>
</tr>
<tr>
<td>b) No</td>
<td>20</td>
<td>4.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>357</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: field survey, 2015

Table 10 shows that 95.3% agreed that ICT opens new sources of supply, market and customers 4.7% disagreed. Through the
internet, users search and find new suppliers and buyers of their products. Business is the negotiated and consummated through the
internet.

**Table 11:** Responses to whether ICT enhances small business development.

<table>
<thead>
<tr>
<th>Options</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Yes</td>
<td>341</td>
<td>96.7</td>
</tr>
<tr>
<td>b) No</td>
<td>16</td>
<td>3.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>357</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: field survey, 2015

Table 11 shows that 96.7% agreed that ICT enhances small business development while 3.3% disagreed. ICT provides large
volume of business information, facilitates business communication and enlarges markets for small businesses. It also enhances the
growth of small and medium scale enterprises.
REFERENCES


