
TOWARDS PROMOTING MICRO-ENTERPRISES WITH ICT: AN ASSESSMENT OF THE CURRENT ICT USAGE LEVEL

Adebayo K.J.¹, Akinmosin A.S.*², Yussuf S.E.*³ and Dada A.M.*⁴
^{1,2,3,4} University of Ibadan, Nigeria

ABSTRACT

Microenterprises has emerged as promising opportunities to eliminate poverty and create jobs in Africa. Despite their preponderance in society and the economy, there is still a huge lack of exact figures and social research regarding ICTs in very small businesses. This paper explores ICT adoption and use by and capabilities of self-employed persons and micro-enterprises. The question is whether or not one can speak of a digital divide among those very small businesses. The subsequent issue is then to find the main characteristics that help explain the current situation. For this an analytical framework is used, based on former qualitative research, which incorporates relevant factors relating to the meaning and significance of ICT for the owner of a micro-enterprise. These questions are translated into measurable elements, which are fitted into a quantitative survey. The paper looked at three key indicators: the presence of a computer in the business, the frequency of use by the self-employed owner and the self-assessed computer knowledge of the latter. However, key figures on other ICTs are also included. Based on these indicators we find a digital divide among micro-enterprises on the level of adoption and use as well as knowledge. The paper makes a case for application of information and communication technologies (ICT) in small businesses against the broader backdrop of the developing economy of African countries.

- 1.
 2. **Keywords:** Micro-enterprises, ICT, SME, Small business.
-

1.0 INTRODUCTION

The steady growth of microenterprises that has been witnessed globally and its role as an engine of growth and poverty alleviation is undisputable (Pisani *et al*, 2002). It is particularly important to developing countries where no other options are available (Otero and Rhyne, 1994). The only way to reduce poverty in a sustainable way is to promote economic growth, through wealth and employment creation. In developing countries, small and micro enterprises are the major source of income, a breeding ground for entrepreneurs and a provider of employment. (UNIDO, WSIS report 2003).

Additionally, micro and small enterprises (MSEs) are recognized as a vehicle for innovation and job creation. The United Nation Industrial Development Organization UNIDO have emphasized the importance of MSEs specially in relation to its income generating opportunities, effective use of local resources and their potential for innovation (UNIDO, 2005).

Generally Small and micro enterprises have been found to have more problems and challenges than larger ones. Southern and Tilley (2000), Delone (1998) argued that small enterprises have higher failure rates. Rayport and Jaworki (2002), Lyytinen (1991) found that small enterprises

have problems managing their records effectively. Others found that small enterprises usually have little control over their environment and have small market shares (Storey and Cressy, 1995). Furthermore, many studies suggested that small and micro enterprises still avoid adopting advanced software applications (Khan and Khan, 1992, Chen, 1993).

Generally the Information Communication Technology (ICT) diffusion in small and microenterprises is low. METI (2001) showed that many small and microenterprises have made use of ICT to improve its internal communication and to capture and manage its customers more effectively. Since that ICT/ mobile phones has become a major tool in conducting business in small and microenterprises and has a positive impact on our work. It was important to investigate ways of using ICT to improve these small businesses.

In this paper, we aim to investigate the level of use of ICT in SMEs and then propose a qualitative approach to infusing ICT into SMEs operations. Nigeria is selected as a context for this study because it generally represents the African context. Also, Nigeria has just witnessed a boom in Microfinance banking which is heavily supported by the government and international monetary and economic agencies.

This paper is structured as follows, the next section introduces Microenterprises. Section 3 describes the use of Information Communication Technology (ICT) in Microenterprises. Then, based on section 2 and 3, section 4 presents the discussion of our approach to solve the problem. The last section discusses our conclusion.

2.0 ICT AND MICRO-ENTERPRISES

Within the discourse on the information society, the e-economy and the importance of innovation, Information and Communication Technologies (ICTs) are seen as major tools with the potential of

fundamentally changing business behaviour and company strategies (European Commission, 2001). The information society is seen as a society where ICTs are central to the production and use of information in all aspects of business and consumer, educational and leisure activity. The possibilities offered by technologies (like internet) for facilitating and optimizing the communication and information exchange at the workplace are supposed to be countless. Although this optimistic view can be questioned, these ICTs use can be very valuable for (small) business. However until recently the role of the Small and Medium-sized Enterprises (SMEs) in these developments has been more or less ignored in policy making and research. The point is that these firms were seen as being no different from large enterprises in their adoption and use of ICTs. It is only in the last decade that policy makers and ICT companies became interested in the role of SMEs in the information economy. Figures showed that company size is one of the significant factors influencing ICT adoption and use. International organizations, African and European authorities and national governments began to realize that these SMEs, being more or less the backbone of the economy, could not be left out of new technological developments. This has led to a multitude of stimulation programmes aimed at these smaller companies. In addition the private ICT sector saw a chance for extending their client base by incorporating the SME market, which was formerly seen as being insufficiently profitable.

From a linguistic perspective, micro-enterprise is “very small-scale business that is normally owner-operated with few employees” (Webster's New Millennium™ Dictionary of English, 2003-2005). Schreiner and Woller (2003) suggested that microenterprises are tiny businesses; most have one employee; the owner.

According to the Institute of Rural Management the term microenterprise refers to an informal activity run by poor with an investment limit of less than 100,000 of any local currency and employing less than five workers. Awasthi in (Awasthi, 2004) points out that there is no official definition available for microenterprise, and he suggests that microenterprise is the unit that employing less than six workers. According to the IFC definition, microenterprises are enterprises that employ less than 10 employees, total assets is less than \$100,000 and/or a total annual sale that is less than \$100,000. IETC (1996) perceive microenterprise as a business, often family-based or a cooperative that usually employs less than 10 people and may work informally. Along the same lines, Burns (1996) characterize microenterprises as enterprises that have small share of its market, managed by its owners and independent of outside controls. UMP (1996) describe MSEs as service delivery of production businesses, usually low capital intensive consisting of an individual or up to about 20 persons formally registered or operating informally in an area. Sasono (1989) defined Microenterprises in relation to the formal regulations, he opined that micro-enterprises operations are “not taxed, licensed, safely inspected nor registered in the national account”.

While each country has some type of Microenterprises activity, there is no common agreement on the definition of micro-enterprises. Each country has attempted to develop its own definition, sometimes microenterprises defined based on the number of employees, size of the capital, turnover of the enterprise and sometimes it is defined based on type of ownership, etc. For example, in Nigeria, microenterprises (cottage/micro industry) is an industry whose cost of fixed assets including working capital but excluding land is not more than (1 million Naira = \$12500) with a labour size of not more than 10

workers, while in Europe, based on the EU commission recommendation in 2003, the micro enterprise is an enterprise with a maximum number of 10 employees. In the USA, the (AEO) defines a Microenterprise as a business with five or fewer employees, requiring \$35,000 or less in initial capital.

It can be argued that most authors agree on the definition of SMEs in the sense that a typical SME is mainly owner managed and houses no more than 20 employees with limited annual budget and turnover. Although the spirit of a typical MSE is based on participating in business ventures, not all MSEs are actually formally recognized.

In this study of ICTs in micro-enterprises, these technologies are seen as tools for ‘digitization’ of doing business i.e. ‘electronic businesses. In user studies where media and ICTs are seen as technological tools, a difference is made between on the one hand the adoption and possession of a technology, and, on the other hand, its actual use (Punie, 2000). Acquiring a new tool presupposes a totally different logic from actually using it. Whether or not adopting an ICT depends on the images and the expectations a person has of the device. The kind of use then depends on the confrontation of these expectations with first experiences with the appliance in the everyday life setting. In addition, the possession does not automatically lead to use or to the expected use. The ultimate use or ‘integration’ of an ICT into everyday life is where the technology becomes so common that it is not even perceived as a technology any more, like television, radio or telephone in Western households. The whole process of adopting, using and possibly integrating ICTs is part of the notion of ‘domestication’ (Silverstone et al, 1996). When discussing the possible use and meaning of ICT another central element is the notion of capabilities and skills regarding computer people and businesses have or do not have (Mansell, 1996). In this

section, the focus is on the knowledge about ICTs. Next we indicate how to approach the study of ICT adoption, use and capabilities in relation to micro-enterprises.

3.0 SURVEYS ON MICRO-ENTERPRISES

3.1 Research Framework

The general purpose of the study is to investigate the digital divide on business-level. In this regard, the main issue focuses on revealing the ICT situation among micro-enterprises and indicating the possible explanations for adoption, use and knowledge. The target population consists of some of the micro-enterprises in Ibadan (Nigeria), the capital city of Oyo state in Nigeria. We excluded little businesses like roadside traders and businesses that are not registered or with no formal office suite, this allows us to focus on SMEs which we think should be ICT driven. Also, non-commercial activities, like governments and schools, are excluded because the focus is on the self-employed and those commercial businesses working for their own account. The maximum number of staffs in all the visited businesses is ten people. We distributed questionnaires and conducted on-field interviews with some of the owners. The results presented are based on results we got from 200 randomly selected small businesses having less than 10 employees in our primary research area.

3.2 Survey Analysis

The concept of digital divide is often too narrowly focused on quantitative access figures. This gives the impression that a business with an internet connection automatically leads to extensive use and eventually to a more successful business. Despite the quantitative nature of the survey, this kind of inadequate approach is avoided. Therefore the access figures are supplemented by data on the degree of use, the kind of use and the skills.

4.0 RESULTST

Investigating the ICT situation among these very small businesses gives an idea about the differences in adoption and use. Our first main assumption is that the notion of the digital divide can be extended to the micro-enterprises. The sub-sections below presents the statistical data of the results obtained from our surveys.

4.1 Telephone-related ICTs

The mobile phone seems to be crucial communication devices for micro-enterprises. But although GSM is used intensively, to a large extent it is used for private motives and many users seem to experience a lack of knowledge. More than two-third (68.5%) of the self-employed have at least one GSM phone. When focusing on the GSM mobile, more than one in ten of the non-owners (12%) consider buying one over the next half year. More than two-thirds (67.5%) of the respondents already had their mobile phone for some time, meaning two years or more. The large majority (71%) use it daily for calling or being called. However, almost half of the respondents (48%) use is mainly private-related. It also is noticeable that two-fifths of the users (41%) have a low to very low self-esteem regarding their knowledge of GSM.

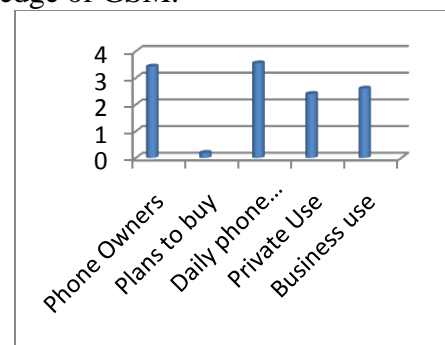


Figure 1. Chart showing phone distribution and use

4.2 Computer-related ICTs

Surprisingly not all businesses have a computer, despite the fact that it is generally perceived as being an indispensable business device. However, those who

have one are in general long-time owners. Acquired figures show that one out of five has at least one computer, while 32% of all businesses have two or more computers. Within the latter group 51% have made a local network connection between the computers (LAN), which equals 12% of all micro-enterprises. The computer has already made its entry in most businesses some time ago, with 87% having the machine two years ago or longer, though most of the computers were not acquired new but rather are “Tokunbo”. One tenth of those with no computer are thinking about acquiring one in the next six months. Yet the fact that a computer is present in the business does not always imply that it is used or that the business owner is well informed. Nevertheless most of the business owners rely on their own knowledge to solve problems or take ICT decisions. Almost 16% of the computer-owners do not use the device themselves; rather a staff is designated to operate it. Also, of the other 84% that do use it, around a quarter (21.5%) does not use it on a daily basis and 4% use it most of the time for private purposes. As to their capability with regard to computers, 45% of the computer-owners rank themselves as low to very low on a knowledge scale. In order to be more informed almost 14% of all the respondents have taken additional courses on computer or informatics. Yet more than two-thirds of the computer owners (69%) try to solve computer problems themselves or at least take all the decisions regarding hard- and software, with or without the help of others. Using the computer is seen as a hobby by 12% of the respondents who use computers for playing games, watching films and playing music. A large proportion of the computer-owners do not have internet-access, this is quite challenging in spite of the proliferation of internet provisions offered by several of the mobile telecommunication providers present. This however may be unconnected with the high

expenses charged by these companies for the stuttering internet services they provide. The good news is however that half of them want to change this situation very soon. Those online are rather experienced internet-users and many take advantage of the free subscription possibility. Of all the businesses having a computer, two out of six (33%) have an internet connection, which equals 34% of all micro-enterprises. However, 45% of those who are not connected state that they are considering acquiring an internet-connection in the near future (half a year). So it seems that almost half of the respondents were interested in this ICT application at the time of questioning. 56% of the ones with a connection have only been rather recently on the internet, meaning less than two years.

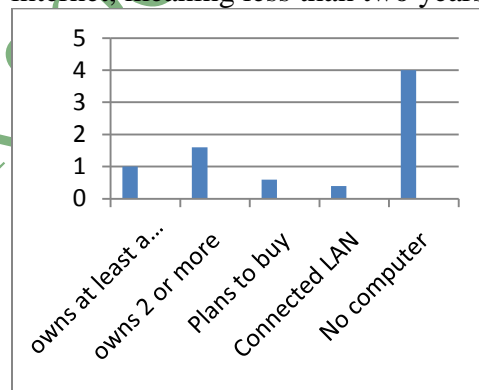


Figure 2. Chart showing computer distribution

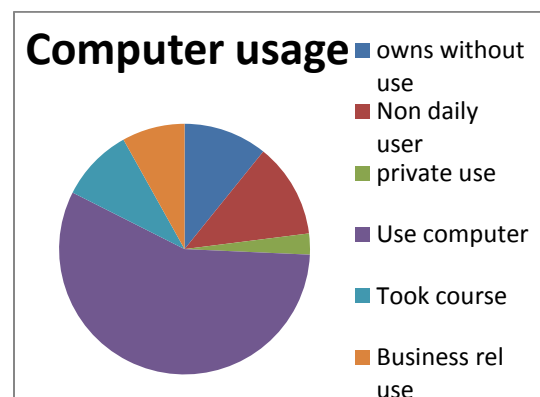


Figure 3. Chart showing computer usage

More than two-fifths (44%) have had a connection for at least two years. As to the kind of internet connection, it appears that

72% connect via the classic combination of an analogue modem and a telephone line. But even more so than in the case of computers, having the internet is not the same as actually using it or being informed how to use it. In this regard e-mail is by far the most popular application. Business owners do not use the internet in one fifth (21%) of all connected firms. Almost half (46%) of the 79% users are not frequent users (i.e. not daily). Contrary to computer use, more than one in every ten internet users (11%) labels his use as being mainly private, and this figure might be higher because the risk of underestimating due to informants choosing social desirable answers (i.e. saying they use it for work). The internet incorporates different applications. More than half of the internet users (51%) indicate that they e-mail at least once a week, while a quarter (25%) surf daily and less than one tenth (9%) consult newsgroups on a daily basis. When looking at their capabilities, a majority of the businesses (55%) that already have an internet connection assess the degree to which they are acquainted with internet as being low to very low. In addition less than one in ten small businesses (9%) have taken supplemental courses specifically on internet applications.

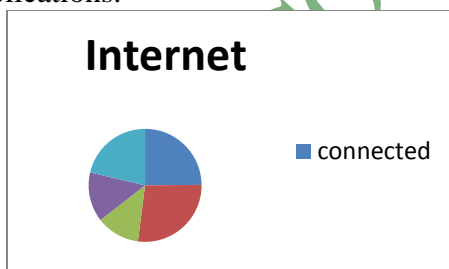


Figure 4. Chart showing internet distribution

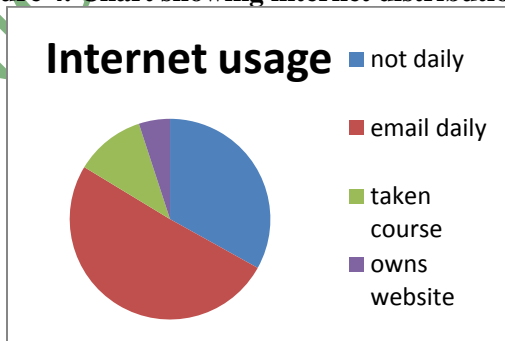


Figure 5. Chart showing internet usage

Finally we look at two specific aspects of e-business involvement: buying on the internet and having a website. It seems that these aspects are rather limited among micro-enterprises. It appears that less than one tenth of the respondents (9%) have bought something at least once via the web. Almost half the percentage of these businesses (4%) has their own website.

5.0 RECOMMENDATION AND ACKNOWLEDGEMENT

5.1 Recommendation

Based on the outcome of the above study, it is very clear enough that the level of ICT diffusion and adoption in small scale businesses is still very low in Ibadan; this can also be extended to the whole of Nigeria and even the sub-Sahara Africa as a whole. The use of ICT in this modern time can greatly promote a steady growth of business transactions. The good news is that based on the result from the survey, it is very obvious that some businesses would prefer the use of ICT but are only limited in terms of resources, this really forms the basis of our suggestions that can be approved by the government in-order to encourage ICT usage.

Specific Recommendations

- Provision of community ICT training centres which will give the willing SMEs operator the basic training they will need in the use of ICT such as the computer. Also training on internet use should be given. Accountability is a key issue in any economy and as such a thorough training on accounting packages to be used by these people is encouraged.
- Provision of low cost computers and other ICTs accessories should be made and given to the SME operator on soft loans as being operated by major microfinance institutions currently available. This will avail the keenly

interested but resource-wise limited SMEs the opportunity of incorporating ICTs to grow their small businesses.

- A centralized websites that will pool information about and services being rendered by each of the participating SME operators should be encouraged. This will allow those who cannot afford their own website to be able to have their business online in conjunction with fellow SME operators. This will also save cost attached to individual owning a website. The website can further be linked to some websites with high daily hits in the country to further boost the participating SMEs status in the public.
- As the mobile phones also plays an important role in growing SMEs, mobile telecoms providers should be encouraged to create cheaply accessible services that will give SMEs operators the platform to collaborate and reach out to the general public through mobile services; this will enable them to reach a large audience about their services.

5.2 Conclusions

This paper explores ICT adoption and use by and capabilities of self-employed persons and micro-enterprises. A survey was conducted to ascertain the level of ICT use by small enterprises; the result shows a low-level use of ICT. Critical problems affecting the use of the ICT were highlighted and suggestions on the way forward are given as recommendations to the government in order to help grow these businesses and in essence, grow the economy and empower more people.

5.3 Acknowledgment

We acknowledge the help of the students who helped in distributing questionnaires used for data gathering.

6.0 REFERENCES

Jaw Y.L. and Chen C.L. (2006). "The influence of the Internet in the inter-

nationalization of SMEs in Taiwan", *Human Systems Management*, pg. 167-183

- Lievrouw L.A. (2002). 'Determination and contingency in new media development: diffusion of innovations and social shaping of technology perspectives', in L. A. Lievrouw and S. Livingstone (Eds.) *The handbook of new media*. London: Sage, 183-205.
- Loane S., Bell J. and Deans K.R. (2007). "Internet adoption by rapidly internationalising SMEs: a further challenge to staged e-adoption models", *International Journal of Entrepreneurship and Small Business*, (4:3), pp. 277-290.
- Mansell R. (1996) 'Communication by design', in R. Mansell & R. Silverstone (Eds.) *Communication by design: the politics of information and communication technologies*. Oxford: Oxford University Press, 15-44.
- OECD (2001). *Understanding the digital divide*. Paris: Organisation for economic cooperation and development, pg 32-43.
- Pierson J. (1999). 'Acceptance and use of ICT by Small Office & Home Office (SOHO): analysing the appropriation of transaction-oriented and knowledge-oriented applications' *Conference Proceedings of the International Conference on Uses of Services and Telecommunications (ICUST)*. Bordeaux: SEE, IREST & ADERA, pp. 376-387.
- Pierson J. (2000). 'ICT appropriation by small businesses: an interplay between home and work', in A. Sloane and F. van Rijn (Eds.) *Home informatics and telematics: information, technology and society*. Boston: Kluwer Academic Publishers, pp. 109-124.
- Punie Y. (2000). *Domestic use of Information and Communication Technology*.



www.ncs.org.ng

Silverstone R. and Haddon L. (1996).
'Design and domestication of information and communication technologies: technical change and everyday life', in R. Mansell & R. Silverstone (Eds.) Communication by design: the politics of information and communication technologies. Oxford: Oxford University Press, pg 44-74

NIGERIA COMPUTER SOCIETY (NCS)



www.ncs.org.ng

NIGERIA COMPUTER SOCIETY (NCS)