

The impact of information and communication technology on the profitability of small and medium enterprises.

Bernardus Franco Maseke*, Lusia Nghixupwamunhu Melkisedek

Department of Economics and Management Science, University of Namibia, Keetmanshoop, Namibia

Abstract

For the past decades, literature has shown that Information and Communication Technology (ICT) play an important role on the wellbeing of small and medium enterprises. Small medium enterprises acquire a satisfactory amount of benefits from using ICT tools, African countries like Kenya, South Africa and Cameroon show that the use of ICT in SMEs improve communication, promote teamwork, visibility of services since customers can use internet to read on a certain service, competitive advantage and employees are able to work remotely. However the problem is, SMEs are still using traditional tools to stay competitive in the market. With the above mentioned benefits there are certain challenges preventing SMEs from adopting ICT tools in their business such like lack of ICT infrastructure, security concern, lack of finance to purchase ICT tools and time barrier. Therefore, the aim of the study is to analyse the impact of ICT tools on the profitability of SME. A quantitative method was used to collect data in this thesis. The population of the study were registered SMEs in Keetmanshoop, close ended questionnaires was adopted to collected data and computer programme called excel was used to present the data in a form of charts and graphs.

Keywords: Small and medium enterprises, Profitability, Information and communication technology, and Infrastructures.

Accepted on 06 April, 2021

Introduction

Information and Communication Technologies (ICT) has a great impact on today's business world sectors, business world sectors have been deeply influenced by ICT tools, and the authority of ICT among business is widespread stated. Furthermore proclaimed that ICT is increasingly changing production, work, business methods, trade and consumption patterns between small-medium enterprises and consumers at a great rate. Bjorn, Ganewatta & voiced out that in today's increasingly globalized world, using Information Communication Technology (ICT) is very critical when it comes to the success of Small and Medium Enterprises (SMEs) [1]. Further explained that quite a number of Small medium enterprises around the globe depend heavily on ICT for their daily work production. According to small and medium enterprises possess extremely important roles across different sectors in any nation, roles which come with great harvest for the nation and its people defined ICT as a collective term for a wide range of telecommunication hardware, software, and information management techniques [2], application and devices, used to produce, retrieve, create, analyse, receive, package, process, store, distribute, and transform information. Identified types of ICT tools being used by organisations are as follow mobile telephone, computers, internet, electronic mail, video conference, credit card system, excreta [3].

In addition stated that Small and medium enterprises benefit from the use of ICT in numerous ways such as increase efficiency, productivity, increase profit, faster communications and reaching new clients, furthermore argued that although ICT benefit SME in numerous ways, small and medium enterprises

within the developing countries are finding it tough to adopt ICT tools in their firms because of the major limitations they are facing such as needy of telecommunication infrastructure, inadequate ICT literacy, inability to combine ICT into business procedures, overpriced of ICT equipment, shortened government regulations for ecommerce, and insufficient understanding of the dynamics of the knowledge economy [4].

According to Namibian government defines small and medium enterprises in the manufacturing sector as a firm with fewer than 10 employees, has a turnover of less than N\$1,000,000 and with capital of less than N\$500,000. In all other economic sectors, a small business is defined as one which employs fewer than 5 persons, whose turnover is less than N\$250,000 and capital employed of less than N\$100,000. ICTs bring effective benefits to SMEs but the use of ICT in small medium enterprises still remains a challenge to the small medium enterprises [5]. However, in large companies such as financial institutions banks, insurance companies and government offices are harvesting greatly from investing in ICT. responded that Small and medium enterprises in Namibia still persist to contribute to the national economy of the country in distinct ways like job creation and generations to the society, adding value to the gross domestic product of the country, helping towards the realization of the government 2030 vision agenda just to mention a few of them. In spite of the fact that SMEs benefit the national economy in numerous ways, SMEs in Namibia are finding it hard to enhance their profit due to low level of ICT tools in their organization [6].

All in all, the research intended to determine the effects of ICT on profitability of SMEs in Keetmanshoop Namibia. The

researcher identified two variables which were SME and ICT, SME being the dependent variable and ICT being the independent variable. This paper is edged on the following research questions. The research questions in this paper are three fold:

- What are the types of ICTs being used by the SMEs in enhancing their profit?
- How does the SMEs benefit from using ICT in maximising their profit?
- What are the challenges (barriers) that prevent SMEs from adapting ICTs?

Literature

Benefits of information and communication technology (ICT) on small and medium enterprises (SMEs) [7]. According to small medium enterprises attain large amount of benefits from using ICT tools, African countries like South Africa, Kenya, Cameroon show that the use of ICT in SMEs improve communication, promote teamwork, visibility of services since customers can use internet to read on a certain service, competitive advantage. Further indicated that ICT improve data management through processing, protecting and storing administrative processes in the business, ICT also improve decision making by helping the SMEs to make logical choices from available options and ICT enhance efficiency and effectiveness explained the benefits that SMEs acquire from using ICT he stated that ICT make work easier and fast for the employees reason being that ICT create business opportunities as they can operate online, furthermore indicated that ICT help SMEs to combat pressure from their competitors, ICT tools cut business expenses by improving their internal processes, ICT improve SME's through fast communication with their suppliers, employees, customers and clients. Last but not least ICT improve the SME's marketing strategy by helping them promote their products online. It stated that ICT improve the degree of wealth and assets of the SMEs the tools improve everything that happens within businesses by keeping it running smoothly and earning profit [8]. It is commonly accepted that ICT offers many potential benefits to the organisations by making them more efficient, effective and competitive.

ICT helps SMEs to communicate with their customers, suppliers and distributors via internet, this tools also help SMEs to obtain business processes and exchange information. It showed that ICT increase manufacturing productivity by automating business processes and granting the employees opportunities to use ICT tools he further stated that information and communication technology enable managers to have access to manufacturing data, ICT improve customer services by using fast response tools of communication when communicating with their customers voiced out that the major challenge in accessing ICT tools for small medium enterprises was found to be the high cost at which they come with. The equipment cost was singled out as the major challenge together with the poor Internet connection which most small medium enterprises face. It stated that Small and medium enterprises

are facing so many challenges preventing them from taking up the use of ICT in their businesses such as insufficient amount of knowledge about the benefits of using ICT tools in their businesses, this is preventing most SMEs from achieving their objectives [9].

Furthermore, reasoned that the owners of the SMEs manage everything in the business the employees and community have no say in the operating strategy, so the adoption of ICT depend on the owner's ICT skills, personality and their attitude toward information and communication technology tools further explained that SME owners regard ICT tool as expensive equipment that their budget is not always enough to cater (buy) them and they require so much cost for set up argued that SMEs are facing numerous challenges, that are stopping them from adopting and using ICT tools in their business these challenges are commonly among SMEs in developing countries like Namibia while developed countries like United states are barely affected [10]. The most frequently cited challenges are as follow poor telecommunications infrastructure, lack of skilled or limited ICT personnel, ineffective integration ICT into business processes, ignorance on the worth of ICTs and return on investment have been the major reasons for lower rate of adoption of ICT. Las but not least explained other challenges as follow: lack of government support for instance in Namibia the government is unable to assist the SMEs due to economic crisis, expensive initiative, risk, complex procedure, managerial leadership this occur when the owner of the business is inconsiderate of their employees they make decisions on their own and sometimes they lack knowledge of ICT adoption, costs and benefits, security, legal issues, business complexity, human capital deficiency, turnover of technical staff, and customer services.

Research Methodology

According to Write a writing, research methodology involves specific techniques that are adopted in research process to collect, assemble and evaluate data. It defined those methods which are used to gather relevant information in a specific study these tools are as follow: Qualitative which uses interview to collect data, quantitative which uses questionnaires and mixed method on the other hand apply both interview and questionnaire [11]. Wherefore the research methodology which was adopted by this study was the quantitative research method which included the development of survey questionnaires consisting of 12 questions, data was collected and analysed, in addition defined quantitative research as the collection of numerical data and exhibiting the view of relationship between theory and research as deductive, a predilection for natural science approach, and as having an objectivist conception of social reality.

Target population

The target population known as theoretical population; it contains members of a group that a researcher is interested in studying. Therefore the target population of the study were registered Small Medium Enterprises (SMEs) in

Keetmanshoop [12]. The total population of all registered SMEs were 400.

Sample size and sampling procedures

A Snowball Sampling method was of advantage to the study because the researcher collected data only on few registered SMEs of the target population, snowball sampling is one in which the researcher only collects data on the few members of the target population he or she can locate and then asks those individuals to provide the information needed to locate other members of that population (Crossman, 2019) stated. Therefore the researcher only comprised a sample size of 80 registered Small Medium Enterprises (SMEs). All in all the study was a non-probability [13].

Data collection procedures and data analysis

The researcher needed a permission letter from UNAM specifically from the supervisor, which served as a go ahead to collect data from the target population of the study. Once the permission letter was granted, the researcher had to visit the office of the Ministry of Trade and Industry in order to find out the population of registered SMEs in Keetmanshoop. Formal procedures and communication channels were used during data collection. The data of the study was analysed as follows: The information obtained from the respondents about the specific issue was arranged in a logical order, and different categories were drawn from the specific issue. Furthermore, the researcher analysed the data collected and then used a computer programme called excel to present the data in a form of charts and graphs [14].

Results and Findings

This chapter illustrates the analysis of data, the findings that appeared from the data collected, followed by a discussion of the research results which relates to the main research question of the study. The data was analysed to determine the effects of ICT on profitability of SMEs by identifying the types of ICT tools being used in SMEs, the benefits of information and communication technology (ICT) on small and medium enterprises (SMEs), and the challenges preventing SMEs from adapting ICT tools in their businesses. As reported by the Office of the Ministry of Industrialisation Trade and SME development in Keetmanshoop, there are 400 registered SMEs in the town. However, the researcher only comprised a sample size of 80 registered Small Medium Enterprises (SMEs). In addition, the data was obtained from the open ended and close ended questionnaires using the quantitative method. Finally the data was analysed and presented using a computer program called excel. All findings presented served to answer the following research questions for this study:

- What are the types of ICTs being used by the SMEs in enhancing their profit?
- In what ways do the SMEs benefit by using ICT in maximising their profit?
- What are the challenges (barriers) that prevent SMEs from adopting ICTs?

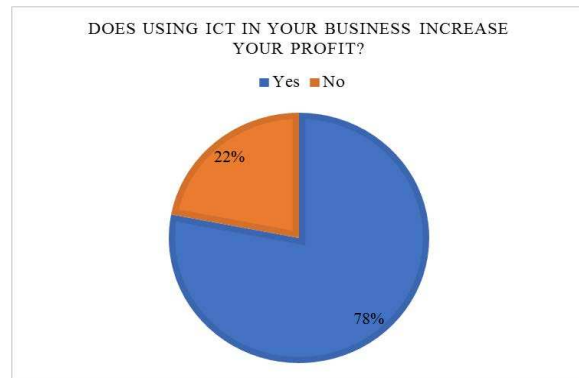


Figure 1. Enhancement of SMEs profitability through ICT adoption.

In light of the results indicated in the above figure, 78% of the respondent reported to have benefited from the use of ICT through enhancement of their profit while only 22% showed reluctance in using ICT to enhance their profit as indicated in the Figure 1.

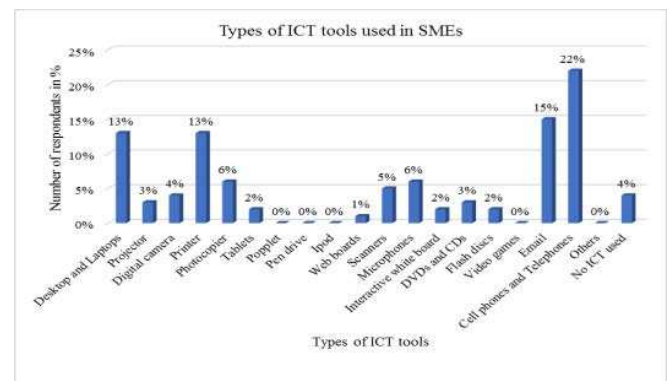


Figure 2. Types of ICT tools used in SMEs.

The figure above presents different types of ICT tools that are used in SMEs in Keetmanshoop. Based on the graph, it shows that cell phones and telephones were the most used tools with 22%, email being the second highest with 15% followed by desktop, laptops and printers with 13%. Among the least used ICT tools were photocopiers and microphones with 6%, then scanners with 5%, digital cameras with 4%, interactive white boards, flash discs and tablets with 2%, web boards and other tools with 1%. 4% of the respondents did not use ICT tools in their firms. While popplet were not used at all (Figure 2).

Summary of the Findings

Based on the finding the following conclusion were drawn relative to the research questions of the study and recommendation:

The first research question have given the respondents opportunity to state what were the types of ICT tools being used by the SMEs in enhancing their profit. Figure 11 highlighted that cell phones and telephones were the most used tools with 22%, respondents added that managers, firm owners

and employees use them to keep in touch with their customers, suppliers and clients, email being the second highest used tool with 15% furthermore respondents explained why they used email reason being that it can be used both for internal and external communication and they consider it to be much faster however some respondents did not back up this because they believed that email is expensive because it requires internet for it to operate. Followed by desktop, laptops and printers with 13%. Among the least used ICT tools were photocopiers and microphones with 6%, then scanners with 5%, digital cameras with 4%, interactive white boards, flash discs and tablets with 2%, web boards and other tools with 1%. 4% of the respondents did not use ICT tools in their firms in view of the fact that they believe ICT tools are expensive. While popplet, pen drive iPod were not used at all since SMEs believe that they are rare to get hold of.

Regarding the second research question the researcher asked the respondents to express their views on how SMEs benefit from using ICT tools based on the findings 44% of the respondents indicated that the use of ICT in their businesses has changed their business process, everything became more efficient and tasks were performed more quickly with the help of technology since most of the work was done through technology. Another encouraging aspect was that customer relationships improved with 44% of the respondents reporting to have achieved their goals through this benefit since using ICT in their business made it easier to communicate with their customers that are in distant areas. A total of 41% of the respondents also stated to have customer satisfaction increased making another 41% of the SMEs with their customer base increased through ICT use and more employees can work remotely with 41%. 27% of the respondents also reported to have increased their revenue.

More importantly 35% of the respondents indicated an increase in marketing efficiency, a total of 35% of the SMEs indicated to have their goal achieved at ease and communication within the firm and their partners improved. Another 33% expressed that their operational cost has reduced due to ICT adaptation in their firm. 32% indicated that ICT improved the quality of their products and services. 18% of the respondents reported to have benefited from ICT in other ways which were not listed by the researcher. 15% of the respondents stated that they did not benefit from the use of ICT tools in their firms. From the findings the researcher concluded that majority of SMEs have gained notable benefits from using ICTs particularly in the place of business processes, customer relationship, customer satisfaction, customer base and marketing efficiency. Clearly these findings show that ICT has a positive impact on SMEs production growth.

The final research question of this thesis asked respondents to express their on what were the challenges (barriers) preventing SMEs from adapting ICTs? According to the findings SMEs also face several challenges preventing them from adopting ICT tools. Figure 12 showed that 45% of the respondents expressed that ICT skills of their employees are too low to introduce ICT tools in their businesses because there will be no one to operate the tools. 35% of the respondents reported the

lack of ICT infrastructure for example internet, another 35% indicated that ICT is too expensive to buy. Lack of awareness about the benefits of ICT was reported to be another fundamental problem for them to adopt ICTs with 27%. 19% indicated time as a barrier because they simply have no time to execute ICT projects and 18% of the SMEs indicated that they are concerned with their security. 16% saw resistance to change as an obstacle. Moreover 13% stated that they could not adopt ICT in their businesses because their business partners (suppliers and customers) do not make use of ICT. Furthermore 12% faced low level of hardware like computers, keyboards and monitors. 6% of the respondents indicated that they do not face any of the ICT challenges.

Recommendations

- The government should provide small and medium enterprises with ICT adoption training and consulting in order help SME owners and managers to be aware of ICT advantage to business.
- This thesis also recommends that Government has a role to play in providing enabling infrastructure to potential speculators for them to thrive particularly in the first stage of operation.
- The ICT industry should come up with awareness to educate upcoming entrepreneurs on ICT value and benefits.

Limitations of the Study

The study encountered various limitations. This study only focused on certain SMEs in Keetmanshoop due to limited time allocated to conduct the thesis so the findings may not translate to all SMEs in Keetmanshoop. Managers of various SMEs did not want to reveal and share certain information regarding their business information which might have been relevant to the study. Lack of financial support was also one of the limitations encountered due to travelling expenses. Language barrier was another limitation because most of the SME owners in Keetmanshoop did not understand English which made it hard to communicate with the interviewer since the questionnaires were conducted in English the official language. The findings specified that a large number of the SMEs had a positive frame mind towards information and communication technology, moreover some SME managers and owners had a negative frame mind toward ICT. However are doing great with the help of ICT when it comes to their profit.

Conclusion

- This study only focused on the SMEs in Keetmanshoop, further studies should include other towns to compare how other SMEs in different towns feel about ICT tools.
- Because of this study's limitations, future studies should consider to address the limitations of this thesis in order to obtain more convincing results.
- Further studies should also consider using qualitative method to analyse data since this study only used quantitative and it was a bit challenging because some respondents could not read nether understand the question.

- Future research should also address how network structures affect decisions concerning use and spreading of ICT tools.

References

1. Agboh DK. Drivers and challenges of ICT adoption by SMES in Accra metropolis, Ghana. *J Tech Res.* 2015;6.
2. Aivazian VA, Ge Y, Qiu J, et al. The Impact of Leverage on Firm Investment: Canadian Evidence. *J Corp Fin.* 2005;11:277–91.
3. Aksoy L, Cooil B, Groening C, et al. The Long-Term Stock Market. *J Mark.* 2008;72:105–22.
4. Almeida H, Campello M, Weisbach MS, et al. Corporate Financial and Investment Policies When Future Financing Is Not Frictionless. *J Corp Fin.* 2011;17:675–93.
5. Amir E, Lev B. Value-Relevance of Non-Financial Information: The Wireless Communication Industry. *J Acco Econo.* 1996;22:3–30.
6. Anderson, Eugene. Customer Satisfaction and Word of Mouth. *J Servi Res.* 1998;1:5–17.
7. Bell, David, Deighton J, et al. Seven Barriers to Customer Equity Management. *J Servi Res.* 2002;5:77–85.
8. Blattberg RC, Deighton J. Manage Marketing by the Customer Equity Test. *Harv Bus Rev.* 1996; 74:136–44.
9. Bolton RN. A Dynamic Model of the Duration of the Customer's Relationship with a Continuous Service Provider: The Role of Satisfaction. *Marketing Sci.* 1998;17:45–65.
10. Bolton RN, Drew JH. A Longitudinal Analysis of the Impact of Service Changes on Customer Attitudes. *J Mark.* 1991;55:1–9.
11. Carhart MM. On Persistence in Mutual Fund Performance. *J Fin.* 1997;52:57–82.
12. Daniel K, Titman S. Market Reactions to Tangible and Intangible Information. *J Fin.* 2006;61:1605–43.
13. Day G, Fahey L. Valuing Marketing Strategies. *J Mark.* 1988;52:45–57.
14. De Bondt WFM, Thaler RH. Further Evidence on Investor Over-reaction and Stock Market Seasonality. *J Fin.* 1987;42:557–81.

*Correspondence to

Bernardus Franco Maseke

Department of Economics and Management Science

University of Namibia

Keetmanshoop, Namibia

E-mail: fmaseke@gmail.com