

The Use of Information and Communication Technologies in Small Medium and Micro Enterprises in the Capricorn District

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KEYWORDS Knowledge Management. Computers. Business Literacy. Value-added Infrastructure. Business Operations

ABSTRACT Investment in modern ICT infrastructure is becoming a core focus of successful companies. This paper examines the role of basic ICT infrastructure in building a competitive and sustainable SMME sector in the Capricorn District, Limpopo Province. Questionnaires were distributed to 30 owners of SMMEs in the Municipality. This study aims to determine the current usage of ICT by SMMEs in this District. The study found that, despite the proven benefits of integrating ICT in a small business, local SMMEs' take-up of ICT is very slow. Few business owners understand the potential impact of ICT on their business operations and 85 percent have no ICT strategy. Most SMMEs lack the financial resources to set up dedicated ICT departments and their level of investment in advanced ICT infrastructure is very low compared with other countries. It is therefore recommended that government, in partnership with the private sector, accelerate initiatives to bridge this gap. This could include improving access to ICT training opportunities, targeted financial support to SMMEs in the ICT sector, establishing ICT zones or parks in rural areas, setting up ICT linkages with the private sector, and awareness campaigns to sensitise SMMEs to the importance of ICT to their core business.

INTRODUCTION

According to the Department of Trade and Industry (2014), seventy percent of Owner-Managers in the Small Medium and Micro Enterprises (SMME) in South Africa lack basic knowledge of how to operate a computer. This report has been used by local enterprise development agencies to motivate for support mechanisms to accelerate Information and Communication Technologies (ICT) usage in the local SMME sector. The report further notes that many Owner-Managers are aware of ICT's direct benefits to their businesses. Even in cases where SMMEs have the will power and financial resources to integrate ICT, Owner-Managers often make poor decisions in selecting value-added ICT infrastructure that is suitable for their businesses (Kennedy and Avila 2013). This study critically evaluates the notion that, due to their size, SMMEs do not need to factor ICT into their strategy matrix. Full economic value of SMMEs can be maximised if governments in

emerging economies invest more in programmes to improve ICT usage in this sector (National Empowerment Fund 2014). This paper therefore examines the critical role played by ICT in improving the organisational effectiveness and efficiency, productivity, and business competitiveness of SMMEs in Limpopo Province, South Africa. It analyses ICT usage dynamics and trends in the local SMME sector and suggests measures to escalate ICT usage in this sector in the province (Montague et al. 2014).

Purpose of the Study

The primary aim of this study was to determine the extent of ICT usage within the local SMME sector in the Capricorn District Municipality, Limpopo Province. The study examined the role of ICT in improving the competitive leverage of small businesses in the district and the various factors that militate against efforts by small businesses to invest in basic ICT infrastructure (Netshandama 2014). Furthermore, it explored the available practical interventions to increase ICT adoption and usage in this sector. The SMME sector is growing in stature and significance in the South African economy. Since investment in ICT is considered a core focus of successful organisations in today's competitive business environment, it is important to enhance the usage of ICT by SMMEs in Limpopo Prov-

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ince. It is forecast that, worldwide, the SMME sector will be a substantial contributor to the Gross Domestic Product (GDP) of the global economy (Breznik and Hisrich 2014). Governments all over the world have adopted programmes to promote the growth of small and medium enterprises. Matos et al. (2014) argued that any African government seeking to improve the job absorption capacity of its economy should aggressively invest in realistic initiatives to grow a sustainable and thriving SMME sector. According to Schroeder (2014), emerging businesses play a key role in addressing the socio-economic challenges of unemployment and income inequalities. Although economists differ in their assessment of the level of SMMEs' net contribution to economic growth in South Africa, they agree that these enterprises play a role in stabilising the economy.

Problem Statement

As far as it can be determined, there is a paucity of research on how effective ICT are applied in SMMEs in the Capricorn District of Limpopo Province. This paper therefore aims to fill this gap by examining the current usage of ICT by SMMEs in this District (Department of Trade and Industry 2014).

Arising from the above problem, the paper poses the following questions:

- How widely is ICT used in the local SMME sector in the Capricorn District?
- What are the barriers to increased ICT usage in the local SMME sector?
- How does the use of basic ICT tools improve the competitiveness of local SMMEs?
- What is the strategic role of ICT in improving local SMMEs' business competitiveness?
- What intervention mechanisms can be adopted to improve ICT usage by local SMMEs in the Capricorn District?

Definition of Concepts and Terms

Information and Communication Technologies (ICT) is an umbrella term for technologies like the telephone, point-of-sale systems, stand-alone personal computers (PCs), networked environments, and internet and credit card facilities. Matos et al. (2014) defined ICT as "the ar-

ray of primary digital technologies designed to collect, organize, store, process and communicate information within and external to an organization." In this study the Micro-enterprises that use ITC are very small businesses often involving the owner, some family member(s), and at the most one or two paid employees. They usually lack formality in terms of business licenses, Value Added Tax (VAT) registration, formal business and operating premises, operating permits and accounting procedures. Most have a limited capital base. However, micro-enterprises differ widely depending on the particular sector, the growth phase of the business and access to relevant support (Erasmus et al. 2014: 69-70). Small enterprises constitute the bulk of established businesses, with employment ranging from 5 to 50. These enterprises are usually owner-managed or directly controlled by the owner-community. They are likely to operate from business or industrial premises, be registered for tax and meet formal registration requirements (Lazenby 2015). Medium Enterprises are also mainly owner/manager controlled, although the shareholding or community control base could be more complex. They employ up to 200 people and capital assets (excluding property) of about R5 million are often seen as the upper limit (Lazenby 2015). Knowledge Management focus on organisational objectives such as improved performance, competitive advantage, and innovation, sharing lessons learned, integration and the continuous improvement of the organisation (Masson 2015).

Literature Review

The Status Quo in Limpopo Province

A study conducted by the Development Bank of Southern Africa in partnership with the Wits Business School (WBS), an entity within the University of the Witwatersrand to assess ICT infrastructure in the North West, Free State and Limpopo Provinces, found that SMMEs in Limpopo Province lack ICT tools. While Limpopo, a mainly rural province, is the only province that has made some progress in preparing a business case for a Broadband Network, implementation has stalled due to opposition from the State Information Technology Agency (SITA) (The Economic Development Department 2014). A search for information in journals (that is,

SABINET, Ebscohost Google, Emerald Blackwell Synergy, Infortrac etc.) and libraries revealed that there has been little empirical research on this topic in Limpopo Province. This study therefore aimed to determine SMMEs' usage of advanced ICT tools as well as the current state of ICT infrastructure in this province. Limpopo has made efforts to implement a Shared Wide Area Network Infrastructure (Erasmus et al. 2014: 89). Matos et al. (2014) argued that while it is commonly assumed that ICT offer certain benefits, not all environments are the same. Choi and Nazareth (2014) noted that, many of South Africa's rural areas remain impoverished because they have no access to basic infrastructure essential for economic growth and development. Furthermore, Chauhan (2015) highlighted that "ICT is seen as a support function rather than one of the drivers for community and economic development in both district and municipal level."

Possible Benefits of the Use of ICT by SMMEs in Limpopo Province

The possible benefits of ICT in the SMME sector will differ from business to business. These benefits are mainly aimed at counteracting possible barriers to business success and growth, such as reducing costs, working remotely, increasing the turnaround period and growing the market. Following are the benefits offered by ICT:

Reduced Transaction Costs and Quicker Transactions

Customer Relationship Management (CRM) is a software that integrates people and technology to maximize external relationships. It enables SMME to have a better understanding of their clients (Fenz et al. 2014). CRM can be linked to an IP PHONE. When the client calls, their history appears. The Owner-Manager can confidently speak to the client, addressing him/her by name; this improves the customer's experience and promotes prompt service (Yaokumah 2014). SMMEs have recognized the positive impact that ICTs, such as computer terminals, e-mail and the Internet and their applications can have on their business. In advanced OECD countries, most small firms, including micro-enterprises with fewer than ten employees, now have at least one computer terminal, usually with Internet access (Lazenby 2015). Many types of business soft-

ware can improve information and knowledge management within the business, leading to more efficient business processes and better performance. Communication via e-mail and the Internet can help to improve external communication, in either B2C or B2B contexts, and may reduce transaction costs, increase transaction speed and reliability, and extract maximum value from each transaction in the value chain. Most of the benefits of the usage of ICT by SMMEs are observed from an Internet usage perspective (Lazenby 2015). Video Conferencing (VoIP) can enable real time, face-to-face communication with stakeholders in the business world. It can reduce costs as travelling and accommodation are no longer necessary. Benefits of ICT and Internet Use: ICT and e-commerce offer benefits for a wide range of business processes. ICT and its applications can speed up internal communication and make the management of the business resources more efficient and effective (Silic and Back 2014). Transferring information through shared electronic files and networked computers increases the efficiency of business processes such as documentation, data processing and other back-office functions. Modern ICT applications such as KMS (Knowledge Management System) and ERP (Enterprise Resource Planning) allow the business to store, share and use their acquired knowledge and know-how, for example, customer databases with a history of client-specific correspondence help managers and employees to respond more effectively to customers. A company-wide electronic data source aims to disseminate employees' professional experience, for example, tips for winning a contract, which others in the firm can learn from (Erasmus et al. 2014). Furthermore, the Internet and e-commerce have great potential for improving the reliability of transactions. A home page with a direct link to the corporate e-mail account provides an easy-to-access contact point. For those in different time zones, 24-hour availability of the contact is especially attractive (Silic and Back 2014).

Barriers to SMME's using ICT as a Competitive Tool in Limpopo Province

The leading reason given by businesses for not engaging in e-commerce is that it is not suited to the nature of their business (Gong et al. 2013). Internet e-commerce does not suit all types of business and/or products. Other reasons for

not conducting on-line sales include a lack of personnel with appropriate ICT skills, concerns relating to an imbalance between costs and benefits, insufficient customer access to the Internet and technology concerns, such as on-line security (Elragal and El-Gendy 2013). The availability of broadband connections may influence SMMEs' decisions to adopt e-commerce. Slow Internet connections and data transfer have discouraged some SMMEs from adopting the Internet. Broadband access rates have accelerated in most African countries recently.

The majority of Internet e-commerce transactions are domestic rather than cross-border (Lambrinoudakis 2013). Legal uncertainties and conflicting regulatory environments for cross-border transactions, especially B2C, may strongly affect SMMEs in particular. There is neither a corresponding legal framework with rules pertaining to the determination of jurisdiction and applicable law nor mechanisms that ensure the cross-border enforcement of legal rulings (Silc and Back 2014). The lack of an IT skills-base in SMMEs, and the personality and attitude to technology of the Owner-Manager influence the adoption and use of ICT, as decision making is vested in him/her (Rubalcaba et al. 2012). The perceived high setup costs of ICT systems are a further barrier to SMMEs in Limpopo Province. SMME are generally concerned about the cost of establishing and maintaining e-commerce systems since they often suffer budgetary constraints and are unsure of the expected returns on such investments. The ever-changing ICT environment is another barrier to enhancing ICT usage by SMMEs. The ICT environment is ever changing; therefore ongoing learning and updating of technologies is vital (Hsieh et al. 2013). Geographical factors in South Africa, particularly in the underdeveloped rural areas and well developed urban areas in Limpopo Province pose challenges to the implementation and effective use of ICT by SMMEs (Lazenby 2015).

RESEARCH METHODOLOGY

This was a qualitative study that sought to gain deeper insight into ICT adoption and usage trends among local SMMEs in a manner that enabled the generalization of the research findings to the SMME sector in Limpopo Province. A qualitative approach enables researchers to gain a complex and holistic picture of a phenom-

enon by analysing words, reports and the detailed views of informants. The study was conducted in its natural setting in Limpopo Province. A research design is a framework that guides the research (Edwards 2015). It reflects the type of study undertaken to provide acceptable answers to the research problem.

Population and Sampling

The total population of SMMEs in the Capricorn District is approximately 100. The study's population comprised of all SMMEs in this District Municipality. The 100 Owner-Managers of these SMMEs constituted the sample frame of the study. Thirty representatives of SMMEs in the Polokwane Local Municipality participated in the study.

Data Collection Method

This section highlights the various data collection tools and processes that were employed to gather both the primary and secondary data used in the study. Primary data were obtained using a self-administered structured questionnaire (Guercini 2014). Questionnaires were distributed to respondents via e-mail. The researcher arranged meetings with representatives of participating SMMEs to clarify how the process would unfold. Interview schedules were distributed to participants at least two weeks before the data collection process. Verbal consent to use these SMME's as case sites was obtained during these meetings. A pilot study was conducted as a smaller version of the larger study (Guercini 2014).

Validity and Reliability of Data

The following measures were adopted to ensure that the collected data were both reliable and valid;

- Different sources of information were triangulated by examining evidence from the sources and using it to build a coherent justification for the themes;
- The final report was taken back to the participants for them to check whether the contents of the report are accurate and valid. Follow-up interviews were conducted to give them the opportunity to comment on the findings of the report;

- The researcher cross checked data codes developed by different researchers by comparing or benchmarking the findings with the results of this study; and
- All transcripts were checked to ensure that they do not contain obvious mistakes made during transcription.

RESULTS AND DISCUSSION

The key findings of the study are aligned to the research questions as follows:

The age distribution pattern of the respondents was pivotal in ascertaining whether the majority of the SMMEs were in the economically active or non-economically active population. The age distribution pattern showed that the majority of respondents were in the 31-50 years age-group. Furthermore, all the respondents are Black Africans (The Economic Development Department 2014). The absence of other races (Whites, Indians and Coloureds) means that the study does not place ICT adoption issues within SMMEs in South Africa's complicated racial context. The study found that improved educational opportunities are critical in improving ICT usage by SMMEs. Netshandama (2014) asserted that business viability is closely linked to the strength of an entrepreneur's intellectual capabilities. This study revealed that few educated professionals in the Capricorn District have economic interests in the SMME sector. It also found that SMMEs based in rural environments have more female than male members. Women outnumbered men by twenty percent. The construction and manufacturing sectors emerged as key drivers of the rural economy in the Capricorn District Municipality; 37.5 percent and 28 percent of participating SMMEs had significant stakes in these sectors, respectively. One key issue noted by this study was the limited understanding SMMEs have of the essence of ICT in their business operations (Montague et al. 2014). For instance, seventy-five percent of the respondents expressed ignorance on the implications of a lack of investment in ICT infrastructure for their businesses. In other words, there is a perception that risk management, as a management tool, is not applicable to small businesses. This study reaffirmed that small businesses perceive ICT as a cost burden rather than an investment. Therefore ICT use in small businesses can only be fully realised when Owner-Managers are ed-

ucated on its tangible benefits. The majority of SMMEs have yet to integrate ICT in their business operations (Matos et al. 2014). ICT use in this sector is best described as fragmented. This study revealed that eighty-five percent of the SMMEs do not have ICT strategies. Furthermore, ninety-five percent have never setup ICT desks within their operations. Only five percent outsource ICT services from specialised ICT providers. The majority of SMMEs have not integrated ICT in their overall business strategy. It is clear that very few SMMEs fully understand the strategic value of ICT in their business operations (Netshandama 2014). It is also evident that the majority of SMMEs lack the budgetary capacity to set-up devoted ICT departments. For example, ninety-five percent of the respondents did not have dedicated ICT desks or units that attend to the ICT aspects of their businesses. Further, only five percent outsourced ICT services from specialised providers and five percent employed a full-time ICT officer. The telephone and the desktop computer are the most commonly used ICT elements in local SMMEs. The study found that sixty percent and forty percent of the SMMEs possessed a desktop computer and a telephone facility, respectively. Internet banking is used by only fifteen percent of the interviewees and only five percent of these businesses do their procurement through the Internet. Whilst at least five percent of the respondents owned facilities such as a server, e-procurement technology and a tablet, the study revealed that e-learning technologies are non-existent in local SMMEs. These facilities are in limited use within this sector (Breznik and Hisrich 2014). While most of the SMMEs are aware of the potential benefits of ICT, they are unsure how to select the right mix of ICT infrastructure owing to ICT literacy challenges. Sixty five percent of the respondents stated that they are not able to operate a computer. Furthermore, they stressed that due to high illiteracy levels, SMMEs feel that ICT is only for larger companies. Even if they have the will and financial resources to integrate ICT into their core business, SMME owners are often at a loss as to how to choose the most appropriate and cost-efficient product. The most important challenges facing the SMME's under study are poor integration of ICT in their overall business strategy; a lack of ICT incentives offered by government; high levels of ICT illiteracy and

budgetary constraints. More than ninety-five percent of the respondents cited these challenges as responsible for the slow pace of ICT investment in this sector (Schroeder 2014).

CONCLUSION

This study drew attention to the influential role played by ICT in building a resilient and competitive small business. It found that the take up of ICT among local SMMEs is slow. Investment in educational campaigns to sensitise SMMEs on the importance of ICT to their businesses is regarded as the most viable way to promote the application of conventional ICT facilities in local SMMEs. While this study may benefit Owner-Managers of small businesses, policy makers, fellow researchers, academics and enterprise development agencies also stand to benefit in the following ways: enterprise development agencies like the Small Enterprise Development Agency (SEDA) and Limpopo Enterprise Development Agency (LEDA) could use the findings of this study to build a business case for initiatives to increase local SMMEs' access to basic ICT infrastructure. The study could also play an influential role in government's quest to build a single and responsive SMME ICT strategy in Limpopo Province. On the other hand, the study may help to reaffirm the crucial role played by ICT in small businesses' strategies. It could trigger the realignment of current enterprise development models with current shifts in the global enterprise development supply chain. Moreover, the study could be used to benchmark similar studies or extend existing theoretical work on South Africa's enterprise development sector.

In conclusion, this study found that:

- Local SMMEs in Capricorn District are not fully aware of the potential fruits of investing in basic ICT;
- The level of investment in ICT infrastructure within the local SMME sector is still low; and
- Government support in building a vibrant ICT infrastructure in the District requires strategic review.

RECOMMENDATIONS

The following recommendations are proposed to improve the ICT usage rate among SMMEs:

ICT Awareness and Educational Campaigns

Awareness programmes to educate SMMEs on the strategic value of ICT in small enterprises may inspire them to change their attitudes and perceptions of ICT. Road shows, social media, seminars and workshops are the key to achieving this objective.

Improve Knowledge Linkages between Institutions of Learning and SMMEs

Local higher education institutions should be encouraged to team up with local SMMEs to roll-out basic ICT skills development to SMMEs. This would go a long way in transferring and transmitting key knowledge, experience and ICT skills to small businesses.

Technical Incentives

The government is urged to offer technical incentives to encourage SMMEs to adopt ICT as a core activity of their businesses. ICT parks or science parks in remote areas have proven popular mechanisms to promote ICT usage by SMMEs in countries such as Malaysia, India and Thailand. Government could also explore the distribution of free laptops to SMMEs in order to bridge the techno-gap in this sector.

Experiential Learning Facilities

The private sector could also play a pivotal role in promoting best ICT practices by offering mentoring and experiential learning opportunities for SMMEs. This cross-transfer of vital ICT skills from the private sector will also stimulate private sector investment in local economic development initiatives.

Development of ICT Tools for SMMEs

The design of easy-to-use ICT tools has been cited as one of the key milestones in addressing low ICT usage among SMMEs. Such tools would assist SMMEs to train themselves in basic ICT applications, making ICT hardware planning and management easier.

Attaching Interns to SMMEs

The government is urged to second ICT graduates from universities, technical colleges and vocational training centres to SMMEs on a year-

long internship programme. These interns would transfer basic ICT competencies and skills to SMMEs.

Financial Incentives

Based on the fact that appropriate ICT infrastructure is costly and beyond the reach of most SMMEs, the government, through Small Enterprise Development Agencies, is encouraged to offer ICT budgetary support to SMMEs.

Further Research

While this study focused on assessing existing ICT usage patterns in the context of small businesses, future studies could highlight the strength of the link between modern ICT practices and small business competitiveness.

LIMITATIONS OF THE STUDY

- The scope of the study is limited to the Polokwane and Lebowakgomo urban areas within the Capricorn District. A comparative study that involved more urban areas in Limpopo Province would have been ideal.
- The population size is small, that is, approximately 100, hence the sample is 30 SMMEs, and only 20 completed the questionnaire correctly.
- Most Owner-Managers of SMMEs claimed that they were afraid to complete the questionnaires and refused to participate in the study.
- Finally, the conclusions and recommendations arrived at are only applicable to Limpopo Province. A broader study that included urban areas in South Africa's other eight provinces, would have been more reliable and representative.

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Paper received for publication on September 2014
Paper accepted for publication on November 2016