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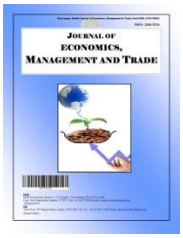

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The Influence of Information and Communication Technology on the Business Performance of the Incubated Small Business Enterprises in Tanzania

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

This study analyzed the influence of information and communication technology (ICT) on the business performance of incubated small business enterprises (SBEs) in Tanzania. Purposive sampling and structured questionnaires were used on fifty SBEs incubated at the Tanzania Engineering and Manufacturing Development Organization (TEMDO) incubation center from a population of incubated SBEs in various government institutions, including the Small Industries Development Organization (SIDO) Centre of Agricultural Mechanization and Rural Technologies (CARMMATEC), the Tanzania Industrial Research and Development Organization (TIRDO), and the Tanzania Engineering and Manufacturing Development Organization (TEMDO). Statistical Package for Social Science and R Programming Language were used for data analysis The study established that ICT increases SBE's market access through information accessibility (70%), market share (80%), promotion strategies (88%) and financial conveniences (74%). Furthermore, SBEs can boost their operational outputs by creating a favorable business environment (64%), lowering business barriers (78%), increasing speed to market (72%), and improving business efficiency (50%). Moreover, SBEs with the aid of ICT have a high chance of increasing business profit through increased sales volume (76%), income level (82%), profit margin (60%) and liquidity level (52%). However, the observed low rating on business efficiency and liquidity due to factors related to the availability and affordability of ICT infrastructure must be addressed to the substantial influence of ICT on SBEs' business performance.

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Keywords: Small business enterprises (SBEs); information and communication technology; Tanzania.

1. INTRODUCTION

Small- and medium-sized enterprises (SMEs) are important to the economy but vulnerable to changes in their environment (Haneberg, 2021). In Tanzania, for instance, Rashid and Leonard [1] argued that Small Business Entrepreneurship has been seen as a hub in generating income for the majority of urban dwellers with no formal paid employment. According to Rashid and Leonard [1] and Leslie (1967), it is established that in Tanzania, Dar es Salaam, in particular, the question of entrepreneurship and small business, especially itinerant trading were evident even during the colonial period. Hawking and peddling were, the standard expedients of those unable to find paid employment. Few of these petty traders were licensed, casual peddlers were observed; rarely bother to follow the law. Despite the obvious inefficacy of municipal policy, the attempt to control itinerant trading by restricting the number of licences persisted. Unlicensed hawkers continued to be apprehended and taken to court.

Ward [2] argued that there is no universal definition for SMEs since the definition depends on who is defining it and where it is being defined. SME is defined differently by various scholars and countries and continents depending on the phase of economic development and their prevailing social conditions, which associate it with the number of employees, invested capital, total amount of assets, sales volume (turnover) and production capability [3]. For example, in Canada, SME is defined as an enterprise that has fewer than 500 employees and a small enterprise as one that has less than 100 employees. On the other hand, the World Bank defines SMEs as having no more than 500 employees. Gilaninia et al., [4] in their perspective, in line with the European Union consider SMEs as firms that have less than 250 employees with an annual turnover that does not exceed 50 million euros, and whose annual balance sheet total is less than 43 million euros. In another dimension, Small Business Administration [5] revealed that in the United States, SMEs could be considered as businesses that have up to 1,200 employees

The situation is different in developing countries. For instance, in Tanzania, the Tanzania National SME policy [6] considered SBEs as small and medium enterprises (SMEs) or micro, small and medium enterprises (MSMEs). In most cases, these small enterprises are made up of 4 people, with capital ranging up to Tshs.5 million, and most of them fall under the informal sector, while small enterprises are formalized and have between 5 and 49 employees, with capital ranging from Tshs.5 million to Tshs.200 million, and medium enterprises hire between 50 and 99 people, with capital ranging from Tshs.200 million to Tshs.800 million.

Despite the differences in classification, all SMEs play a great role in reviving the economy. In their study, Prasanna et al. [7] revealed that in the era of economic globalization, small and medium enterprises are recognized as an engine of sustainable economic development in both the developed and developing world. Furthermore, based on the World Trade Report [8] and Ayyagari, Kunt, & Maksimovic [9], SMEs employ about 50% of workers in developing countries and account for two-thirds of formal non-agricultural private employment.

The history of SBEs' establishment in Tanzania goes back a very long way. Rutashobya, Chijoriga & Ishengoma [10] pointed out that Tanzania has gone through a period of deep change since the late 1980s after its move to abandon monopolistic policies under the command approach to economic management. This led to the establishment of the SBEs. However, entry into small business entrepreneurship in Tanzania is usually not seen as a problem. Therefore, one can start a small business at any time and in any place. Concerning Mfaume and Leonards [11] and Kuzilwa [12], most people enter into small businesses because of a lack of access to adequate education and difficulty in finding formal employment. Few people who were previously employed in small businesses are now unemployed for a variety of reasons, including retrenchment. Besides, such engagement in business life in most cases is very short. Ahmedova [12] reported that a considerable percentage of micro and small industries in developing countries have closed down within a very shorter period of commencement. According to Noe *et al* [13], the key competitive challenges in the current globalized economy are classified as the sustainability challenge, the global challenge, and the technological challenge. Those challenges together with a low level of utilization

of improved technologies affect SMEs' formalization and their participation in trade particularly in developing countries like Tanzania as also highlighted in Ntwoku, Negash, and Meso [14].

Regarding Esselaar et al. [15] and Higon [16], the SBEs and SME sector, in general, are believed to have an important role to play in economic development, national economies, poverty reduction, and employment creation, especially in developing economies. Thus, various efforts were made towards formalizing the SBEs and increasing their effectiveness, one of them being the establishment of a business incubation center in several government institutions, mainly via the Ministry of Investment, Trade, and Marketing. Based on Lose [17] and Ndabeni [18], business incubation can be defined as organizations that provide and facilitate a protected environment for start-up and existing businesses by providing a comprehensive range of shared services to minimize start-up failure. Grimaldi and Grandi [19] show that business incubators facilitate the development of SMEs in the regions, reducing the probability of failure and speeding up the process of business creation by offering infrastructure and facilities to the incubated enterprises. According to Tötterman and Sten [20], the primary reasons for beginning and emerging SMEs to join an incubator are to build competitive enterprises and to connect and network within their community.

Regarding the current information on the application of ICT in business, Chang, Younghoon; Siew Fan Wong; Park, Myeong-cheol [21] reported that the digital divide is one of the most concerning issues today. It positions those who have-no access to technology at disadvantage socially and economically. The key to reducing the digital divide is to provide access to basic technology and information content. From the socio-economic perspective, ICT development is a salient component that underlies the growth of a society, as depicted in Frieden [22]. In the context of this study, ICT, encompassing modern technology that is used to aid the electronic capture, processing, storage, and dissemination of information, whether in a numerical, textual, audio or visual format, is an important driver for social and economic development, global participation and competitiveness, and ultimately, growth, as also stipulated in Ponelis & Holmner [23]. ICT and e-business applications provide many benefits across a wide range of intra- and inter-firm business processes and transactions. ICT applications improve information and knowledge management inside the firm and can reduce transaction costs and increase the speed and reliability of transactions for both business-to-business (B2B) and business-to-consumer (B2C) transactions. In addition, they are effective tools for improving external communications and the quality of services for established and new customers (OECD, 2004). Moreover, Jameel [24] pointed out that the importance of using ICT such as enterprise resource planning (ERP) and electronic commerce (e-commerce) by business firms couldn't be overstated. ICT applications have been the major interest of researchers and practitioners due to the benefits that can be generated from these applications. Moreover, research revealed that ICT through e-business has a high chance of effecting the development and improvement of education and business management, as evidenced in AbuAwwad [25].

According to Sarkar [26], ICT is divided into two components, information and communication infrastructure (ICI), which refers to physical telecommunication systems and networks, and the services that utilize those (internet, voice, mail, radio, television) and information technology (IT) that refers to the hardware and software of information collection, storage, processing, and presentation. ICT is also believed to be the new way in which people can communicate, inquire, make the decisions, and solve problems. It is the processes, tools and techniques for gathering and identifying information, classifying and organizing; summarizing and synthesizing, analysing and evaluating, speculating and predicting, by so doing it is believed to affect the performance of the business. Based on Matambalya and Wolf [27] the ICT as an information channel allows the immediate transmission of large volumes of information and permits communication independent of the physical movement of individuals. In the contest of ICT, the business may also use a marketing information system to understand the customers' needs, meet their requirements, successfully implement marketing plans and assisting them in avoiding market threats and exploiting market opportunities to gain competitive advantages, as depicted in Plomaritou & Patsiouras [28]. A study by Tarutė and Gatautis [29] revealed that ICT and its impact on economic, social, and personal development have become an important object of scientific research during recent decades. Thus, theoretical and empirical studies have demonstrated the necessity to gain and exploit

positive outcomes and business performance in terms of productivity growth, organization expansion, efficiency, effectiveness and competitiveness.

Various authors defined business performance in different contexts, but almost all of them have common features related to market share, growth, sales revenue, number of employees and number of branches; survival, sustainability, stability, profitability, job generation, as well as a level of efficiency and innovation, or level of human capital development as revealed in Shane [30]. Moreover, Duygulu et al. [31] pronounced the three mission components in assessing the SMEs' performance as being survival, growth, and profit; philosophy and value; and public image. All these variables of business performance depend on educational and entrepreneurial skills [32]. Moreover, Mutandwa, Taremwa, and Tubanambazi [33] argued that three major factors that determine the performance of SMEs are marketing and entrepreneurship skills, working environment, and materials and infrastructure availability. Thus, future policy interventions should consider these strategic areas for enhanced visibility of SMEs. Matambalya and Wolf [27] consider performance from the perspective of efficiency and productivity in three ways, namely: improving efficiency in resource allocation, reducing the transaction costs, and technical improvement, leading to the outward shift of the production function. For this study, in line with the status of respondents' SBEs, market access, operational outputs, and business profit were opted to represent SBEs' business performance.

Regarding market accessibility, referring to Paulina et al. [34], Nyangarika and Ngasa [35] companies still fall short of their target, despite advancements in ICT marketing. Information and communication technologies (ICTs) like mobile phones, computers, and intranets are considered important for creating competitive advantages. Despite their rapid deployment rates, only a few studies, mainly from the information technology (IT) and engineering literature, have been devoted to uncovering the factors that influence the diffusion of new information technologies and their proper use within an organization. Furthermore, Tachiki et al. [36], cited in Nyangarika and Ngasa [35], illustrated that in some cases, communication based on ICT and the Internet specifically can also improve external communication, reducing the inefficiencies resulting from lack of coordination between firms and increasing the speed and reliability of information processing and transfer, which in one way or another, will affect business operations.

According to the OECD [37], information and communication technology (ICT) connectivity (PCs and Internet) is very widespread in businesses of all sizes. As is the case with all technologies, small businesses are slower than large ones to adopt new ICTs. Potential small business benefits and firm and sector-specific strategies drive the adoption and use of it. Furthermore, sectors are increasingly global and dominated by large firms, and the structure of their value chains and operations shapes opportunities for small and medium-sized enterprises (SMEs). The principal reasons for non-adoption are lack of applicability and little incentive to change business models when returns are unclear.

Besides, despite the use of ICT by SMEs being increasingly common according to a survey for OECD countries, the levels differ between countries, especially when it comes to the developing world. Therefore, there is a crucial need to assess its effectiveness in SBE performance in such countries, Tanzania being one of them. Furthermore, despite the potential benefits of ICT and e-commerce, there is debate about whether and how their adoption improves firm performance. Matambalya and Wolf [27] claimed that despite the percentage of firms that use mobile phones increasing much faster, at least there is little empirical evidence of how the diffusion and application of ICTs can be a catalyst for economic competitiveness and growth in developing countries. The question remains now through what channels this improved access to ICT will impact enterprise performance for users and hence economy-wide growth, especially for small businesses. As a result, critical evaluation of those aspects is required, taking into account the various levels of business enterprises and market segments based on the demographic characteristics of SBEs.

Given that, the main objective of the study was to assess the influence of information and communication technologies on enhancing the business performance of small business enterprises in Tanzania. Specifically, the study aims to: determine the contribution of ICT to market access of SBEs; find out the role of ICT in SBEs' operational outputs; and determine the contribution of ICT to the business profitability of SBEs in Tanzania.

2. MATERIALS AND METHODS

2.1 Research Design

A research design is concerned with turning a research question into a testing project [38]. The study used quantitative methods, which included both primary and secondary data.

2.2 Data Sources

Concerning data, the study collected both primary and secondary data. Regarding primary data, the study applied a survey approach using questionnaires and observation data collection methods. The questionnaire instrument was structured with both open-ended and closed-ended questions. The questionnaire was comprised of four sections whereby the first aimed to assess the respondent's demographic characteristics, and the remaining three had questions relating to key variables of three research objectives concerning the contribution of ICT to market access of SBEs; the role of ICT in SBEs' operational outputs; and the contribution of ICT to business profitability of SBEs in Tanzania. On the other hand, secondary data was collected through the review of various documents and information sources containing related information. Among the key sources of secondary data sources were the Tanzania Engineering and Manufacturing Development Organization (TEMDO) incubation center, the Ministry of Investment, Industries, and Trade (MIIT), and the Tanzania Commission of Science and Technology Incubation Center. The key focus was on data on the history, productivity, market and profitability trends of their operations before and during the ICT era. On this ground, historical and business performance trend data were reviewed to widen the understanding of the researcher and support the primary data. The study also adopted Prasanna et al. [7] in secondary data collection by carrying out an extensive web search on SME performance and filtering the papers by subject matter

2.3 Sampling Process

In line with the research's main objective, the study population comprised SBEs under incubation processes by various government research and development institutions in Tanzania, namely Tanzania Engineering and Manufacturing Development Organization (TEMDO), Small Industries Development Organization (SIDO), Centre of Agricultural Mechanization and Rural Technologies (CARMMATEC), Tanzania Industrial Research and Development Organization (TIRDO), and Tanzania Commission for Science and Technology (COSTECH). The study used TEMDO as a case study since it executes the main government role concerning SME development by offering necessary supporting infrastructure and setting up institutions and frameworks that support and strengthen SME initiatives and activities. Therefore, pertaining to the sampling process, this study, via purposive sampling techniques, used a sample of 50 SBEs, incubated at the TEMDO's incubation centre, which is structurally situated within the Ministry of Investment, Industry, and Trade based in Arusha. The respondents were purposely selected based on virtual versions of their positions and roles, which fits in very well for case study consideration. While, in accordance with Saunders, Lewis, and Thornhill [39], any sample size greater than 30 is regarded as suitable for conducting statistical tests, this choice is regarded as proper and sufficient for purposive sampling.

2.4 Data Analysis

Data were coded before being analyzed, and the results were tabulated afterwards. The collected data was analyzed using the Statistical Package for Social Science, in which factor analysis was carried out to regroup the elements of the dimension to come up with a small but similar data set. Since the study was aware of the specific variables of business performance and data structure, confirmatory factor analysis was used for verification. Moreover, descriptive statistics were used for all variables of demographic characteristics and business performance to ascertain the respondents' perspectives on the link between ICT and SBEs' business performances. Furthermore, secondary data was reviewed and critically used to support and supplement the primary data. All figures (1–8) were developed using the R programming language for statistical programming and graphics.

2.5 Data Validity and Reliability

The aspects of data validity and reliability were also taken into account to ensure the research process leads to accurate research findings and consistency as recommended by Patton [40]. Therefore, Cronbach's alpha test was carried out to measure internal consistency and how closely related a set of items used in each business performance variable are as a group,

the results being 0.745, 0.767, and 0.701 for market access, operational output, and profit, respectively. Thus, based on George & Mallery [41], as well as Kagoya and Mbamba [42], the results were acceptable as there were greater than 6.

3. RESULTS

3.1 Demographic characteristics of the respondents

For demographic characteristics of respondents, the current study adopted six variables, namely age, education level, monthly income, occupation, and time spent on business. The results on these aspects are summarized in Figs. 1, 2, 3, 4 and 5, respectively.

3.2 Demographic Satisfaction of Effectiveness of ICT on Enhancing Business Performance

Using the respondents' views and levels of satisfaction, this study assessed the influence of ICT on enhancing the business performance of SBEs using three main variables, namely ICT for market access, ICT for operational output, and ICT for business profitability. The results were as presented in Figs. 6, 7 and 8.

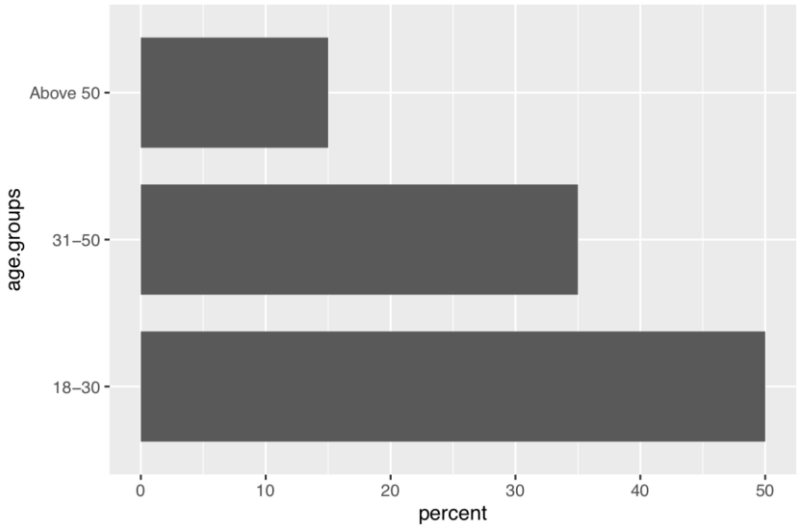

Fig. 1. Age groups of respondents (Source: Field data,2016)

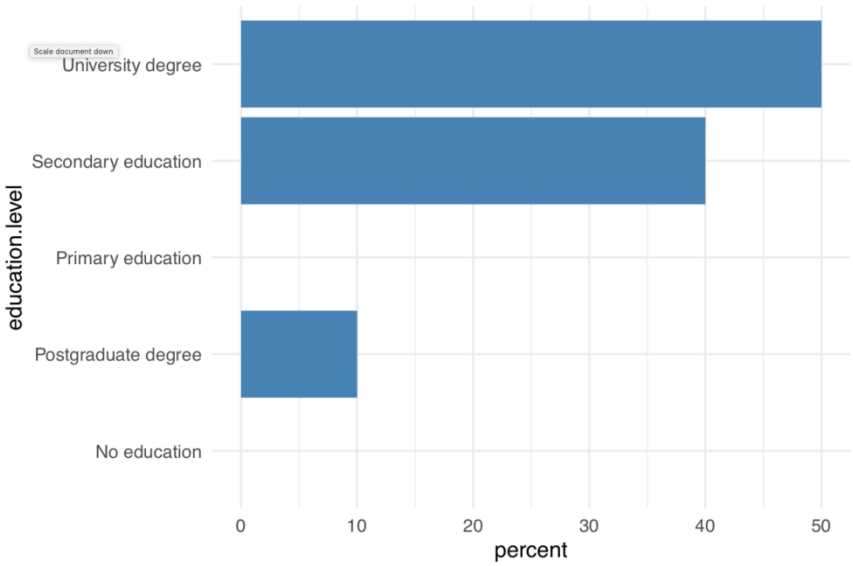

Fig. 2. Education level of respondents (Source: Field data,2016)

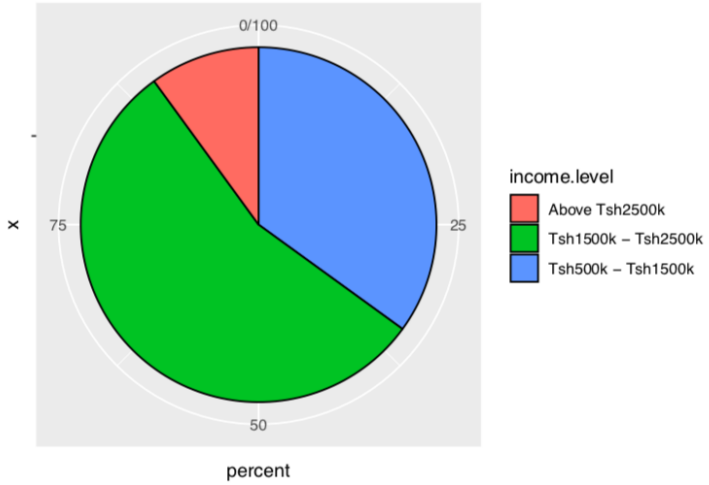

Fig. 3. Income of respondents (Source: Field data, 2016)

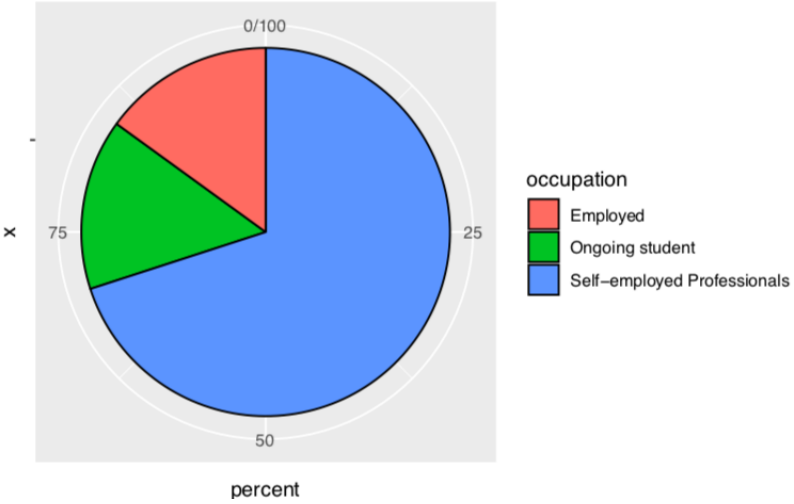

Fig. 4. Occupation of respondents (Source: Field data,2016)

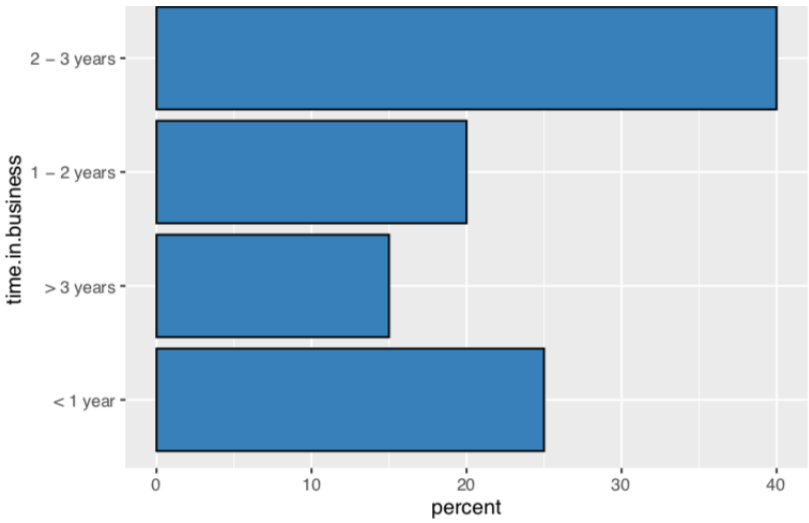

Fig. 5. Time of respondents (Source: Field data,2016)

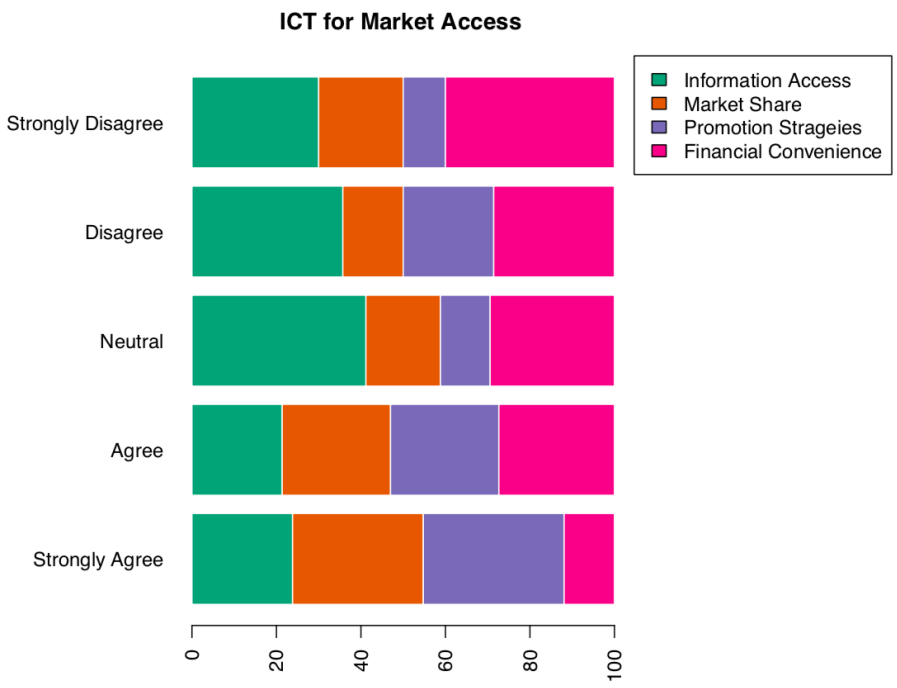

Fig. 6. Satisfaction level on the effectiveness of ICT for market access (Source: Field data,2016)

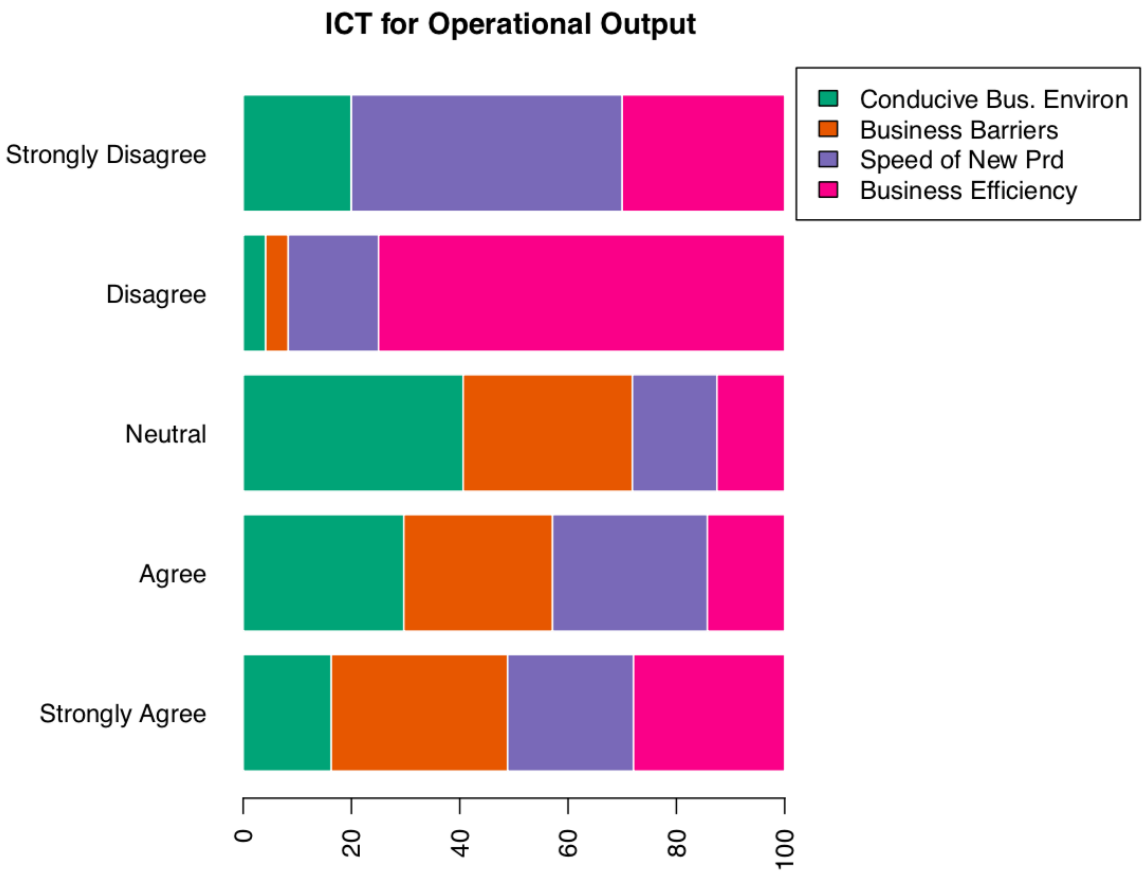

Fig. 7. Satisfaction level on the effectiveness of ICT for operational output (Source: Field data,2016)

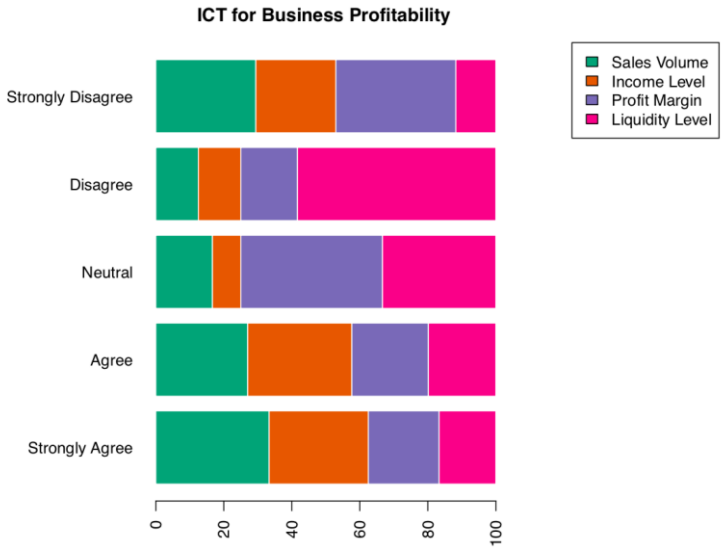

Fig. 8. Satisfaction level on the effectiveness of ICT for business profitability (Source: Field data,2016)

4. DISCUSSION

4.1 Demographic Characteristics of the Respondents

The results revealed that on gender aspects, respondents fall within a 50/50 gender ratio to have a balance of views from SBEs (males and females) for a true reflection of society. The researcher selected an equal number of both genders to get equal views from both males and females. This will also address the argument by Qazi, [43]; Lee et al., [44]; Tam et al., [45] that despite the widespread use of ICT, many studies have shown a gender imbalance in ICT usage and skill development in favour of boys, whereby boys have a more positive view of ICT and utilize it to improve their learning.

Moreover, findings of the age of respondents in Figure 1 revealed that respondents were also divided into three age groups, of which the majority (50%) fell into the age group of 18–30, implying that these are the most users of ICT in comparison to the older age groups, who are sometimes less knowledgeable about ICT. The findings are supported by the research done by Kubiatko [46] revealing that the majority of people within this age group are known as the Millennial Generation, born after 1980 when technological advancement was higher than before. Based on Akande [47], this group is Internet savvy, phone-addicted, opportunistic, and digitally conscious.

Additionally, in the education level category Figure 2, it was established that 0% of respondents fall into the uneducated and primary school categories, 40% of respondents had secondary education, 50% had university degree education, and 10% had postgraduate degrees. Thus, 60 of the respondents had first and postgraduate degrees. The findings back up a study by Foley, Alfonso, and Ghani [48], which found that people with a high level of education are more likely to have basic ICT skills and knowledge. Furthermore, according to the OECD [49], the higher the level of education, the more likely individuals is to have access to and use ICTs in both the home and the workplace.

Moreover, the researchers grouped respondents based on their income level since the level of usage of ICT by higher and lower-income earners is different. The findings in Figure 3 revealed that 35% of respondents had an income of between Tshs 500,000/= and 1,500,000/=, 55% of respondents had an income that was above Tshs 1,500,000-2,500,000, and only 10% had an income of more than 2,500,000/=. This is in line with the findings from Flores [50] that individuals with a higher income use ICT more often as compared to those with a lower level of income. Besides, the OECD (2001) showed that for consumers and small businesses, the most significant costs for engaging in electronic commerce are the prices of local communication access. Thus, educational attainment and income are strongly related and explain much of

the difference in uptake. Moreover, at the same income level, those with higher educational attainment will have higher rates of access.

Apart from that, respondents were also classified according to their current occupations, despite all being in the SBE incubation program. The classification here includes students, self-employed professionals, and traders. The findings in Figure 4 indicate that 15% of respondents were continuing students, 70% were self-employed professionals, and 15% were employed somewhere else. Millan et al. [51] revealed that digital skills are needed to participate in today's modern societies and to improve one's economic situation, despite huge inequalities in access and adoption of ICT. The self-employed who use ICT "all of the time," if not careful enough, will not have enough time left to maintain networks or visit clients. Concerning experience in SBEs, the findings in Figure 5 show that 25% of respondents had less than 1-year of experience, 20% ranged between 1 and 2 years of experience, 40% fell between 2 and 3 years, and the remaining 15% had more than 3 years of experience in the business.

4.2 Influence of ICT on Enhancing Business Performance

4.2.1 ICT for Market Access of Small Business Enterprises

The first aspects of market accessibility were assessed using four elements, namely: information accessibility, market share, promotion strategies, and financial conveniences. Regarding information accessibility, the results in Figure 6 reveal that 20% of respondents are highly satisfied, 50% are reasonably satisfied, and 14% were neutral. Only 16% combined were considered dissatisfied. Thus, the study summarizes that for 70%, one of the crucial aspects that could be easily impacted by a properly programmed ICT system is market accessibility. This finding coincides with Hamili's [52] argument that market information services, especially those based on mobile phones and tablets, can enhance SBEs and farmers' ability to access markets and match consumers' demands by improving the flow of information between traders and producers, reducing transaction costs, and enabling farmers to purchase required inputs. Thus, low adoption of innovative strategies in marketing services, if not addressed, may lead to a low survival chance for SMEs, as also revealed in Ioanid, Deselnicu, and Militaru [53].

Another issue tested in this category was whether ICT had expanded the market share. In regards to this, the findings show that the majority of respondents were highly satisfied, with the exception of only 4% being dissatisfied, and 4% being highly dissatisfied. Thus, 86% of the respondents currently see that ICT can widen their marketing coverage. The findings correlate with Singh [54] that ICT helps companies identify opportunities and implement marketing communications via multiple media. It further helps in market expansion, diversity of revenue streams, convenience, value addition, customer satisfaction, improved sales performance and credibility, and growth opportunity. Further evidence is seen in a study by Trung et al. [55], which shows that digital technology and ICT have certain effects on the marketing activities of tourism corporations as well as the whole tourism industry in general.

The study also tested whether ICT can contribute to a refined, customized, and up-to-date promotion strategy. In regards to this aspect, results show that 88% of the respondents see ICT as bringing up-to-date marketing strategy, while 8% of the respondents do not. These results are in line with Singh [54] that ICT in marketing provides companies with easy access to vast global information resources and facilitates valuable competitive knowledge and consumer information that simplifies the decision process. Some of the ICT-powered marketing channels are social media marketing, search engine marketing, content marketing, affiliate marketing, e-mail marketing, and SMS marketing. Furthermore, in line with Khan et al. [56], SMEs have the opportunity and flexibility of social relationships and social media to share not only their products but also their technological knowledge and skills among themselves, thereby boosting the promotion of their products.

The study also assessed the financial conveniences, specifically how ICT enables SBEs to manage payments from various stakeholders. In regards to this, the findings show that 10% were highly satisfied, 60% were reasonably satisfied, 6% were neutral, 4% were dissatisfied, and 4% were highly dissatisfied. Thus, 74% see ICT as vital to helping them access funds and good payment modes. The findings coincide with the findings by Panos (2013), which indicated that ICT in financial services through mobile money transfer and other electronic machines has simplified the means of payment. Thus, an entrepreneur can

conveniently transfer money online within a short time. Besides, the financial relations between SBEs and their financiers can be improved via ICT. Winborg and Landstrom [57] found that some small business managers tend to be restrictive when it comes to providing external financiers with detailed information about the core of the business since they believe, in one way or another, information about their business may leak through to competitors. Thus, through strict security systems, SBEs can use ICT to share required information without unnecessary hesitations. Furthermore, Masele [58], in his study on e-business adoption in SMEs in Tanzania, established that, if a firm is to adopt ICTs in marketing or other business areas, the technology behind it has to be easy to use since it is intended for the end-users, which inculcates an individual/user's self-efficacy to use Green eBusiness, drivers that influence intention to use.

4.2.2 ICT for Operational Output of Small Business Enterprises

In studying the impacts of ICT on the productivity of small business enterprises in the form of operational output, four entities were analyzed and studied. These items include enhancement of a conducive business environment, minimization of business barriers, and time and speed of new products to be channeled to the market. The results in Figure 7 revealed that despite the argument that an efficient ICT system may simplify business operations, the study findings revealed that 32% had combined undecided opinions and disagreed on the matter. This might be due to the low level of ICT usage led by the massive ICT investment costs required to support the business operation and the required infrastructure for customers and potential clients to access the firm's services or information online. However, those using ICT based on Beirut Arab University [59] revealed that ICT makes a business more efficient, effective, and promptly responds to customers' needs. ICT can help with business activities such as design, manufacturing, research and development, distribution, sales, and feedback. Robert [60]; Beckinsale and Ram [61] revealed that they are satisfied with improving business efficiency, operational effectiveness, and the need to reach out for new markets and opportunities. Some SMEs have exploited ICT effectively to improve internal communications and have improved their reputation through swift responses to customers' complaints and an ability to capture clients' (hidden) needs [62]. In line with that, Saltari, Wymer, and Federici [63], in their study on the role played by ICT in affecting the efficiency of the business services industry, using a structural disequilibrium model of the Italian economy, established that the Italian business service sector initially improved its efficiency by adopting ICT, but from the early 90s, it stagnated, led by a structural deficiency in absorbing new technologies.

Respondents were also asked to provide their opinion on how ICT usage can be used to minimize various business barriers to the market. From the results, 20% of respondents were undecided. The respondents with an undecided opinion can be linked to the fact that limited SBEs use ICT and there is little proof that the dispersion and utilization of ICT can advance monetary competitiveness and development in less developed nations, as depicted also in Matambalya and Wolf (2001). Besides, 78% acknowledge that ICT has improved the operation of their business due to tackling business and market barriers. These findings, aside from Bughin et al. [64], show that ICT promotes changes in organizations and is a good stimulant to SME development since it helps in finding new business models, raises awareness, and price transparency.

Another important aspect was to test if, currently, respondents have realized any benefit due to ICT application on the speed of moving new products from the company to the market. The results show that 72% acknowledge contributing to innovation and moving the product to the market at a faster rate. Bayus [65] showed that the firm must decide whether to speed development efforts to beat the competition in the market. Analysis of the various tradeoffs for this scenario suggests that first-to-market status for a product with a high-performance level is optimal under the following conditions: a relatively long window of market opportunity, relatively high sales, and relatively flat development costs. With a long product lifecycle, stable margins, and high sales, the firm can generate sufficient revenue to offset the increased cost incurred in speeding a high-performance product to market. Beating a competitor to market with a low-performance product is never optimal for the cases considered here. In this context, ICT plays a big role. However, 10% were undecided and 18% had a negative opinion.

This study also tested the perception of the respondents on whether ICT contributed to increasing business efficiency. The findings

revealed that 46% of respondents in aggregate agree that business efficiency can be enhanced by ICT. A neutral opinion was held by 8% of respondents, while a strong opinion was held by 36%.Concerning increasing business efficiency resulting from the use of customer relationship management, timely feedback, and customized marketing, which will in turn impact positively on business performance, the study correlates with Nurmilaakso's [66] that attributes of economic activities are related to information and communication technology (ICT) investments. Just because ICT can reduce coordination costs by affecting information processing, communication, delays, and errors, the coordination cost attributes of the activities can explain these investments. Furthermore, ICT can be used to promote and ensure urbanization, which has become the norm of life in the twenty-first century and poses one of the most critical challenges to achieving economic development and a better standard of living, which will in turn improve efficiency, as depicted at Beirut Arab University [59]. However, over 60% didn't realize benefits due to several challenges related to infrastructure, knowledge, and business networks. However, large numbers of SBEs do not see ICT as a good element for increasing efficiency, mainly because of the higher required investment cost and long return on the investment.

4.2.3 ICT for Business Profitability of Small Business Enterprises

Jameel [24] revealed that most of the ICT and SBEs related studies have focused on adoption factors, benefits, and barriers of e-commerce rather than using e-commerce in areas such as productivity and cost. Thus, the last part of this study investigated the satisfaction level of the link between ICT and business profitability through an analysis of the impact on the increasing sales volume, income profit margin, and liquidity level. The findings according to Figure 8 revealed that on the first aspect of profit addition through increased volume of sales, 16.0% and 60% of the respondents strongly agreed and agreed, respectively, that through ICT they increased their sales volume. The remaining percentages were undecided or disagreed. This might be contributed to by a well planned and implemented ICT marketing campaign that attracts more customers and eventually increases sales due to an extended customer base, as revealed also in Nyangarika and Ngasa [67]. Moreover, Winborg and Landstrom [57] pointed out that lack of information is another area of constraint that tends to block the flow of credit to small and medium enterprises. Small business owners most often possess more information about the potential of their businesses than financiers want, but in some situations, it can be difficult for business owners to articulate and give detailed information about the business as the financiers want.

Furthermore, based on Mehack & Dharni [68], finance has become a crucial part of our economy for the development of society. Therefore, finance in terms of income level was one of the vital variables under this study. Given that concerning income level, the study's finding revealed that, in total, 82.0% of the respondents are satisfied and agree that ICT helps in increasing their income. The increase in income could be attributed to various ICT-related factors such as the availability of vast communication and marketing collaterals via the online platform as well as reduced costs, particularly those of marketing, transaction, and communication in general, as evidenced by Garicano and Kaplan [69].

On ICT and profit margin, this study revealed that ICT could be a source of the increase in profit margin that was strongly agreed upon by 10% and agreed upon by 50%. However, a total of 40% of responders were undecided and disagreed on the link between ICT and SBE's profit margin, mainly due to high costs related to the acquisition, transportation, and installations of both hardware and software, as well as inadequate training, lack of an ICT policy, and poor ICT security, which were fundamental challenges facing SMEs, as also depicted in Maghanga [70] for the case of Kenya. If excessive, these costs may reduce the profit of the business.

The last business profitability variable to be assessed was the liquidity level. The findings were almost equal on the two sides of agree and disagree, whereby 52% combines the perceptive of both strongly agree and agree, while the respondents rated 16%, 28%, and 4% for undecided opinions, disagree, and strongly disagree. On the positive side, SBEs can now use computers to carry out most financial transactions between banks in various ways, including the use of internet banking, clearing cheques, paying salaries, payment of standing orders or direct debits, so the level of enterprises and customers' liquidity is greatly enhanced, as

also evidenced in Abernathy [71] and Essinger [72]. Contrary to the past, whereby the majority of people, especially rural people, are only familiar with a small number of banking services and activities, as a result, they are still restricted to these services. Thus, most people believe that banks' only activities are deposits and withdrawals. This is why they avoid using other financial services, as evidenced in Mehack and Dharni [68].

Despite that, the ICT alone will not affect the SBE's availability of ready cash or their ability to convert assets and security into cash. An effort must be made to increase sales, income, and profit, as well as accumulate liquidated assets. Eravia and Handayani [73] pointed out that as most SMEs lack access to more sophisticated technology as required to upgrade productivity, it is essential to provide opportunities for the SMEs to acquire information and knowledge on the importance of adopting such technologies in their business because better technology is believed to improve productivity and hence profitability of SMEs. Specifically, Kiveu and Ofafa [74] noted that opportunities exist for SMEs to apply ICT to facilitate communication and access to information, identify markets, improve transactions, conduct market research and analysis, access international markets, engage in on-line selling, network and lower transaction costs [75].

5. CONCLUSION

This study, therefore, ascertains the substantial influence of ICT in enhancing SBE's business performance in Tanzania. The overall findings showed that for SBEs to benefit from ICT, they need to capitalize on it by increasing market access through information accessibility, market share, cutting-edge promotion strategies, and enhancement of financial conveniences; increasing operational output by supporting a conducive business environment, minimization of business barriers, increasing speed to the market, and business efficiency. Furthermore, SBEs must ensure that information and communication technology (ICT) is used effectively and efficiently to increase sales volume, income level, profit margin, and liquidity level. However, the issues of availability, affordability, and knowledge base of both ICT hardware and software must be well taken care of. This study also showed that the effect of reaching that decision is also linked to demographic characteristics of respondents, mainly gender, age, education level, monthly income, occupation, time and experience level [76-79].

DISCLAIMER

The products used for this research are commonly and predominantly used products in our area of research and country. There is no conflict of interest between the author and producers of the products because we do not intend to use these products as an avenue for any litigation but the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by the personal efforts of the author.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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