

# Owner-Manager Perceived Relationship Between ICT Adoption and SME Performance in Busiro West Wakiso District, Uganda

Jonathan Mukiibi Rollin  
Head of IT, Africa Renewal University, Uganda  
E-mail: [@afru.ac.ug](mailto:@afru.ac.ug)

Alice Ladur  
Lecturer, Department Community Health, Africa Renewal University, Uganda  
E-mail: [aliceladur@gmail.com](mailto:aliceladur@gmail.com)

Grace Byamukama  
Head of Department Business Studies, Africa Renewal University, Uganda  
E-mail: [gbyamukama@afru.ac.ug](mailto:gbyamukama@afru.ac.ug)

Olutayo K. Osunsan  
Lecturer, Postgraduate Studies & Research, Africa Renewal University, Uganda  
E-mail: [oosunsan@afru.ac.ug](mailto:oosunsan@afru.ac.ug)

## Abstract

This study explored the relationship between ICT adoption and SME performance from the perspective of owner-managers in Busiro West in Wakiso District. More specifically, (i) to assess the relationship between ICT adoption and SMEs performance in Busiro West Wakiso District, (ii) to identify the current challenges on ICT adoption by SMEs in Wakiso, and (iii) to analyse the level of adoption of ICT in SMEs. With the respondent of 140, the study adopted a mix method and cross-sectional survey design. The findings revealed: (i) There is a significant positive relationship between ICT adoption and SME performance ( $r = 0.913$ ;  $p$  value = 0.000). (ii) Some of the challenges that impeded ICT adoption included high costs, limited skills, lack of infrastructure, and security concerns. The study also confirmed that SME owner-managers know the benefits of ICT adoption, but several have failed to consistently adopt and use it due to the several challenges associated with adopting ICT. (iii) The study also observed a low level of ICT adoption among the SMEs. Conclusions were drawn and recommendations made with regards to government intervention, service providers imitative, owner-manager role and general public sensitisations. The study contributed to body of knowledge that confirms the importance of ICT adoption to business performance and success.

**Keywords:** ICT adoption, SME Performance, Owner-manager, Uganda

**DOI:** 10.7176/EJBM/14-24-06

**Publication date:** December 31<sup>st</sup> 2022

## 1.0 INTRODUCTION

The importance of Small and medium-sized enterprises (SMEs) and the synergistic nature of Information and Communications Technology (ICT) adoption cannot be over emphasised (Lindgren, 2022). ICT is the infrastructure and component parts that allow modern computing and more so its application in this context. ICT can be conceptualised as all sorts of technologies and products of broad range of software, hardware, telecommunications and information management systems, applications and devices used to create, produce, analyse, process, package, distribute, retrieve, store and transmit or receive information electronically in a digital format like computers, email, internet, websites, social networking and other wireless communications devices, networks, broadband, and as well as the various specialized devices and applications associated with them, such as satellite systems and videoconferencing (Lindgren, 2022; Schleutker, 2022). An SME is defined as an enterprise employing maximum 50 people; annual sales/revenue turnover of maximum Ugandan Shillings 360 million and total assets of maximum Ugandan Shillings 360 million (Osunsan, et al 2015).

SMEs are considered to be the backbone of healthy economies and predominantly in the developing countries. It is safe to say SMEs have a significant socio-economic role in society that is beyond questioning; they account for over 40% of businesses globally. They are major sources of job growth and can contribute up to 90% of employment in some nations (Ibrahim, Turyakira & Katumba, 2019; Simon, Osunsan & Byamukama, 2022). An estimate of 80% of the population in Uganda are employed in SMEs. According Asiimwe (2017) SMEs make up 90% of the private sector, contributing over 70% of total gross domestic product (GDP) and an estimate of 80% of manufactured goods output (Turyahikayo, 2015). The survival rate of SMEs are quite low in Uganda in spite of their contribution to the economy; it is estimated that about 2 in every 3 start-ups in Uganda will not make it to their first anniversary (Turyahikayo, 2015; Osunsan, et al 2015; Ibrahim, Turyakira &

Katumba, 2019). This occurrence is attributed to several factors including poor saving culture, deficiency of entrepreneurial skills and their failure to exploit new opportunities for growth have been underlined as some of the main factors for the low survival rate (Osunsan, et al 2015; Ibrahim, Turyakira & Katumba, 2019).

The adoption of ICT has been documented as essential to business success in our contemporary business era and several scholars have emphasised the inability of businesses to grow faster without the adoption of ICT. Businesses regardless of their sizes are faced with new challenges ranging from changes in consumer tastes to the COVID-19 pandemic shutdowns. To manage in the ever-changing environment, technology is being adopted to remain relevant and competitive (Ibrahim, Turyakira & Katumba, 2019). Awiagah, Kang and Lim (2016) pointed out that SMEs, more so, need to embrace innovative ICT strategies in order to stay competitive, profitable and successful in local and global markets. It is a fact that increased ICT adoption, e-commerce and internet usage have benefited SMEs with regards to cost reduction, better operational efficiencies, access to new customers and greater business growth. Information and Communication Technology (ICT) involves the use of computer hardware and software all to facilitate production in any given enterprise effectively. The use of ICT that ranges from mainframe to personal computers, from word processing to sophisticated applications and systems have made considerable transitions into large, medium and even small organizations.

In the SME segment, numerous researchers have suggested there is a need for early adoption of ICT if business sustainability is to be achieved (Beynon-Davies 2018). Several studies have explored the role of ICT in business performance; however, few have focused on SMEs and even less in the context of Uganda. The unique challenges faced by SMEs characterized by limited skills, lack of funds, lack of basic infrastructure (such as steady power supply), limited export opportunities and knowledge about strategic and competitive advantage of ICT adoption has inspired the need for the study. The purpose of this study therefore is to investigate the impact of ICT adoption on SME performance in Busiro East Constituency, Wakiso District. More specifically, (i) to assess the relationship between ICT adoption and SME performance in Wakiso, (ii) to identify the current challenges on ICT adoption by SMEs in Wakiso, and (iii) to analyse the level of adoption of ICT in SMEs.

## 2.0 LITERATURE REVIEW

### 2.1 ICT adoption and SME performance

Bayo-Moriones, Billón and Lera-López (2013) carried out a study on the perceived performance effects of ICT in manufacturing SMEs in Spain. The findings demonstrated a positive relationship between ICT adoption and performance. However, they observed that the perceived impact is not always immediate since the lag effects and length differ according to the type of ICT adopted and the adoption of new work practices but the effects also depend positively on the number of ICTs implemented. They confirmed that ICT impact on final performance (market share and profits and margin) takes improvement of internal and external communication, as well as through operational performance (Bayo-Moriones, Billón and Lera-López, 2013). Setiowati, Daryanto and Arifin (2015) investigated the effects of ICT adoption on marketing capabilities and business performance of Indonesian SMEs in the fashion industry. The findings confirmed that the adoption of ICT results in better business performance of SMEs and affirms that ICT has given the opportunity for SMEs to reach more customers and provides a low-cost infrastructure to grow their businesses. Suriyapperuma, et al (2015) explored the impact of ICT and the internet particularly on SME performance in the context of Sri Lanka, the study also looked at the extent to which the internet is adopted. The study found that the adoption of the internet does have a beneficial impact on the performance of SMEs. However, several challenges were identified as to limiting its adoption and usage within SMEs. Chairuel, Widarto, and Pujani, (2015) study on ICT adoption in affecting organizational performance among Indonesian SMEs and found that ICT adoption and usage impacts organizational performance. They further emphasised that ICT helps the business with regards to cost saving, expanded markets, additional sales, reduced costs, time saving, productivity, profitability, and market value. Similarly, Ashrafi and Murtaza (2013) observed that a majority of surveyed SMEs have reported a positive performance and other benefits by utilizing ICT in their businesses. Ong, et al (2016) reviews the relationship of information communication technology adoption (ICT) and Business Performance (BP) from a women entrepreneur perspective in Malaysia and Indonesia. The study found a positive relationship between ICT adoption and business performance in both countries. Olise, et al (2014) explored a similar relationship in Anambra State, Nigeria. The study examined the determinant of ICT adoption for improved SME performance. Their study also confirmed the positive effect of ICT adoption on SME performance. Ibrahim, Turyakira and Katumba (2019) looked at ICT adoption with regards to e-commerce and its influence on performance in terms of SME growth. The findings indicated that e-commerce adoption significantly influences the growth of SMEs. Ab Wahab, et al (2020) as with the other studies sought to determine the relationship between the ICT adoption and SMEs business performance. Their findings revealed that ICT adoption had significant correlation and relationship with business performance of SMEs. As confirmed in earlier studies (Olise, et al 2014; Setiowati, Daryanto and Arifin, 2015; Ong, et al 2016; Ibrahim, Turyakira and Katumba, 2019), Ab Wahab, et al (2020) elaborated that ICT adoption can benefit firms including reducing business transaction costs, improving service

operations, expanding business opportunities, better understanding customer requirements, reducing communication barriers and obtaining information about specific customer needs and external competitors will enhance the firm's business performance. On the basis of the literature review the following hypothesis is stated:

HA<sub>1</sub>: There is a significant positive relationship between ICT adoption and SME performance in performance in Busiro East Constituency wakiso District, Uganda.

## 2.2 Current challenges on ICT adoption by SMEs

Suriyapperuma, et al (2015) observed in the context of Sri Lanka that cost is one of the major drives that influence the adoption and use of ICT. Other aspect identified as to being a challenge includes complexity of the type of ICT adopted. Ibrahim, Turyakira and Katumba (2019) discussed the cause of less ICT adoption in developing countries like Uganda include: inadequate financial resources; limited management support; perceived lack of security in Internet transaction; negative attitude towards technology and perception of relative advantage; limited technological competencies and technical support; persistent change of e-commerce technology; limited access to internet; managers/owner's expertise and commitment; inadequate infrastructure; poor maintenance of technological infrastructures; Government policies and regulations ; and limited support by government and other agencies. Ashrafi and Murtaza (2013) observed in their study that a number of SMEs in Oman outsource most of their ICT activities. Lack of internal capabilities, high cost of ICT and lack of information about suitable ICT solutions and implementation were some of the major barriers in adopting ICT. These findings are consistent with other studies. They emphasised that there is a need for more focus and concerted efforts on increasing awareness among SMEs on the benefits of ICT adoption (Ashrafi and Murtaza, 2013). Abdullah (2014) categorised challenges of ICT adoption as supporting challenges, technical challenges, managerial challenges, and administrative challenges. The supporting challenges has to do with lack of awareness, doubts relating to ICT benefits, set-up costs and pricing matters and security concerns; technical challenges include the lack of internal technological capabilities in terms of personnel who is conversant with ICT; managerial challenges consist the absence of managerial ability to change, integrate ICT to the business model and strategy; and administrative challenges consists of the emphasis of management decisions on current needs and situation as well as the fact that only people with authority, responsibility and access information dictate the decision to adopt ICT. Abdullah (2014) farther elaborated that low economic power, gaining access to capital needed for ICT adoption, limited access to specialised ICT training and consultants, among others. Gono, Harindranath and Özcan (2013) in the context of South Africa emphasised that the influence of the supply chain determined growth and use of ICT (stated as supply chain slavery) in as well as internally driven SMEs, individuals and owner-managers. The study also found that among SMEs studied there was a high ICT skills shortage and they have to rely on outside ICT vendors and consultants for their needs. Strangely the study found that cost of ICTs was not seen as a constraint to ICT adoption, this contradicts several findings in literature (Ashrafi and Murtaza, 2013; Abdullah, 2014). Eze, et al (2019) found that limited knowledge of ICT, time frame, limited ICT support, lack of specialised skills, limited funding, and general support from government were all deterrence to ICT adoption. Similar to Eze, et al (2019), Agboh (2015) also found that the main impediments to ICT adoption in the Ghana context were lack of internal capabilities, high cost of ICTs, poor infrastructure, financial constraints, and lack of information about suitable ICT solutions and lack of time to implement. Similar sentiments were repeated by other scholars such as Kyakulumbye and Pather (2022), Baporikar (2022). Baporikar (2022) core finding suggests that SMEs face challenges in ICT adoption owing to a lack of resources. The stands out as the one common thread than ran through all the literature with the exception of Gono, Harindranath and Özcan (2013).

## 2.3 Level of adoption of ICT in SMEs

Several studies (Labrianidis 2017; Rahman et al. 2017; Lew et al. 2019; Panas, Vasiliadou, and Halkiopoulos 2020) have observed that operators in the SME sector have perceived the ICT adoption with scepticism and fear (described as by 'technophobia' by some scholars). This observation is more pronounced amongst smaller SMEs such as micro-enterprises (Cataldo, Pino, and McQueen 2020). Studies confirmed that the fear of ICT adoption is mostly attributed to pre-usage attitudes and beliefs (Chakraborty and Al Rashdi 2018). Suriyapperuma, et al (2015) identified that influence of benefits, complexity, business orientation, workplace adaptability and ICT costs as factors that influence the level of adoption. Olise, et al (2014) observed that ICT adoption levels are low in Nigeria. Their study confirmed the many benefits of ICT adoption by SMEs, ranging from business growth to economic development. Olise, et al (2014) observed that several characteristics influence the adoption and adoption levels of ICT in SMEs, this includes size or market share; capital base; numbers of employees; turnover and asset value among other.

Kyakulumbye and Pather (2022) found there was a low levels of ICT usage among SMEs. Similar sentiments are echoed in literature (Çallı and Coşkun, 2019). In fact the problem of low adoption of ICT amongst this sector is well documented in the literature (e.g. Nguyen 2009; Mramba et al. 2016; Pather and

Abiodun 2017). This problem is further compounded in practice wherein SMEs fail to make the connection between ICT adoption and their profit-motive on the one hand and their personal motive gain expectations on the other. However, there is a widely accepted consensus that if SMEs harness ICTs, it is likely to improve performance, growth and sustainability for more inclusive employment, increased mobility, ability to organize customer information and improved inter-connectedness to other microenterprises (Francis and Willard 2016). It is further observed that the low adoption and use of ICTs among SMEs in developing contexts is due to demographic backgrounds, beliefs and attitudes of users in the sector (Pustovrh et al. 2017).

### 3.0 METHODOLOGY

The study also followed both quantitative approaches, which was based on variables measured with numbers and analysed with statistical procedures and subjective data. In this study, the sampled population came from the seven business centres in Wakiso for business enterprises registered and managed by the owners. Three business centres were sampled to represent the population (Buloba, Bulaga and Bulenga). In Wakiso Local Government there are three major business centers with over 1125 registered SMEs of which 45% are manufacturing, 55% are consumer supply. However, 35% of the consumer supply are small and medium sized enterprises dealing in retail, service delivery, small manufacturing enterprises (URB, 2019). This implies that there is approximately 217 SMEs. Using the formula;

$$n = \frac{N}{1 + (e)^2}$$

Where, N is the population size, e is the margin error at 0.05 and n is the sample size. Using Population of 217 SMEs and Margin of error of 0.05, the sample (n) was 140 SMEs. The sampled number of respondents were from the major selected business centres of Busiro East from Bulenga, Bulaga and Buloba in Wakiso District. Data was obtained using self-administered questionnaires; 146 were sent out. The content validity index (CVI) was 0.959; reliability was tested using a both test retest and the Cronbach Alpha ( $\alpha=0.898$ ). Both met the minimum requirement of 0.70 to be acceptable. The data was analysed using Pearson Linear Correlation to identify the relationship between ICT adoption and SMEs performance. Means and frequencies were used to present the current challenges and levels of adoption of ICT in SMEs.

### 4.0 RESULTS

#### 4.1 RESPONSE rate

146 questionnaires were issued and 140 were properly filled which corresponded to the sampled population of the research and giving a feedback rate of 95.8%. This feedback rate was adequate for the analysis as pointed out by Mugenda and Mugenda (2003).

#### 4.2 RESPONDENT Demographics

There were more female owned businesses (55.7%) as opposed to male (44.3%). About half of the owner-managers (55%) had attained a post-secondary level of education, 32% had secondary education and only 25.7% had primary level of education. 26% of the respondents were in the service provider, followed by retails/wholesale (20%) and restaurants (11%) accounting for the top three. Most of the businesses had been in operation for 3 to 10 years (42%) followed by those in business less than 3 years (21%).

#### 4.3 RELATIONSHIP between ICT adoption and SMEs performance

To test the strength of correlation between the outcome variable and the predictor variables Pearson's moment correlation coefficient was used.

**Table 1: Correlation between ICT adoption and SME performance**

Correlations		<i>SME Performance</i>
<i>ICT Adoption</i>	Pearson Correlation	.913
	Sig. (2-tailed)	.000
	N	140

Table 1 reveals there is a positive significant correlation between ICT adoption and SME Performance in Wakiso District Busiro East constituency ( $r = 0.913$ ;  $p$  value = 0.000). This study among others sought to test the hypothesis: There is a significant positive relationship between ICT adoption and SME performance in performance in Busiro East Constituency Wakiso District, Uganda. On the basis of the finding the hypothesis is accepted. The coefficient of determination,  $R^2$  was calculated using:  $R^2 = (r)^2$ ; Where  $r$  = Pearson correlation coefficient.  $R^2 = 0.834$ . Cohen (1988) suggests that you can interpret the  $R^2$  as an effect size: a measure of the strength of the relationship between the dependent and independent variables. It is however important to note that  $R^2$  alone does not suggest causation. Cohen (1988) suggested a series of generally used

indices, such as the correlation  $r$  ( $r = .20$ , small;  $r = .40$ , moderate and  $r = .60$ , large). On this basis of this the effect size in this data can be considered large.

This finding agrees with the body of literature from across the globe and in particular Bayo-Moriones, Billón and Lera-López (2013), Olise, et al (2014); Setiowati, Daryanto and Arifin (2015), Suriyapperuma, et al (2015), Chairuel, Widyarto, and Pujani, (2015), Ibrahim, Turyakira and Katumba (2019), and Ab Wahab, et al (2020). This study adds its voice to the conformation of the role of ICT adoption to the enhanced performance of SMEs. This also confirms that regardless to size, when utilised effectively, ICT is always an added value in improving performance.

#### 4.4 Current challenges on ICT adoption by SMEs

**Table 2: Limitations to ICT adoption**

No	Response	Frequency	Percent
1	ICT is too expensive	36	25.7
2	Lack of ICT infrastructure	23	16.4
3	Business partners do not make use of ICT	23	16.4
4	Unreliable service providers	21	15.0
5	IT skills level is too low	16	11.4
6	Low level hardware technology in place	16	11.4
7	Security concerns	5	3.6
<b>Total</b>		<b>140</b>	<b>100</b>

Table 2 shows challenges limiting or undermining ICT adoption and suggests there is need for engagement to solve some of the above issues that limit business owners from adopting the use of ICT. Almost 26% of the respondent claim ICT infrastructure being expensive in terms of servicing, user deployment, installation, maintenance and limited service providers of ICT facilities that cater to SME. From the discussions and contributions from the respondents, there is need to improve the ICT infrastructure and Government intervention to help SMEs adopt the use of technology in their businesses. This finding speaks to the impediment of ICT adoption in spite of its documented benefits to business performance (Ibrahim, Turyakira and Katumba, 2019; Ab Wahab, et al, 2020). SMEs are particularly limited from adopting ICT due to costs and technical limitations that is harder for them to overcome because of their limited resources.

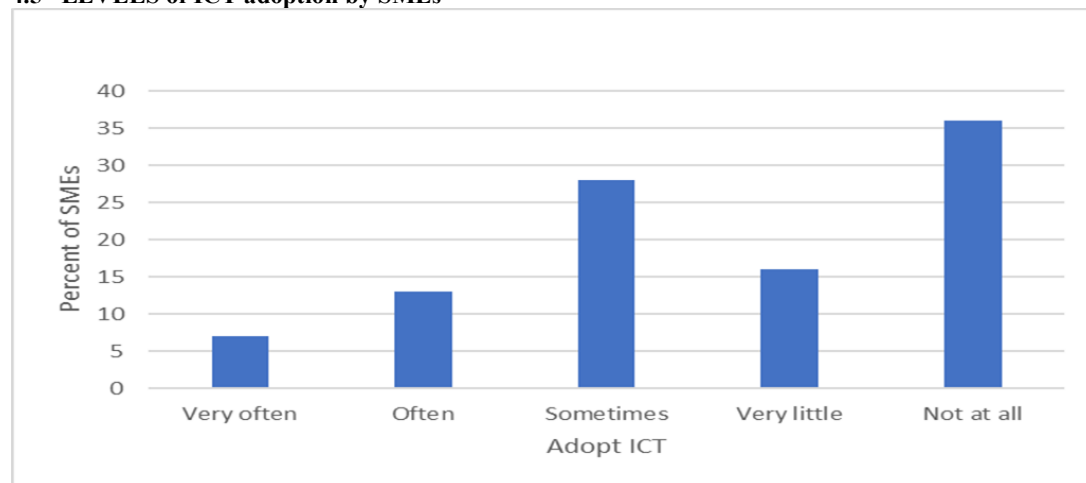
**Table 3: Government intervention in ICT adoption in SME**

No	Response	Frequency	Percent
1	Invest in ICT infrastructure	33	24
2	Building the right regulatory framework	21	15
3	Improve consumer protection	12	8.6
4	Providing tax incentives for enabling tools	20	14
5	Improve awareness on benefit of ICT	12	8.6
6	Improve ICT training	42	30
<b>Total</b>		<b>140</b>	<b>100</b>

Table 3 presents the 6 top responses and confirmed that 24 of the respondents need government to invest in ICT infrastructure since this has been one of their hinderances to adopting ICT. The cost implication of acquiring and adopting ICT is quite high not to mentioned the ground infrastructure on which they are to operate/built on. 15% required government to adjust their regulatory framework on ICT implementation as this is a major impediment in terms of acquisition costs and operation costs. Some key themes that appeared under this observation included the cost of internet and the government restrictions on social media platforms such as Facebook. Other factors include the fact that customers don't always feel safe doing business using ICT due to security issues and the need for emphasis on training to ensure both business and client security.



#### 4.5 LEVELS of ICT adoption by SMEs



**Figure 1: Levels of ICT adoption**

Figure 1 show that most SMEs (36%) in Wakiso, Busiro East had not adopted the use of ICT in some of their business processes. 20.1% of SMEs regularly use ICT, most SMEs (64%) have adopted ICT usage at a minor level at the very least. However, it was so imperative that these firms embracing the use of ICT use at a more consistent and high levels for different purpose, which require use of internet to meet their clients in their place of convenience, they also embrace the use of internet, social media and promotion. This is not the case with regards to most of the respondents deducted from the interviews. In spite of these most, if not all the respondents understood and were mostly able to articulate the benefits of adopting ICT. Table 4 details the benefits realised by respondents who have adopted ICT currently or at a point in time in the past (80 respondents have, but not all are currently).

**Table 4: Benefits of adopting ICT in SME.**

No	Response	Frequency	Percent
1	Customer satisfaction increased	21	26.25
2	ICT improved the quality of our products	6	7.5
3	Business process is more efficient,	1	1.25
4	Tasks are performed more quickly	16	20
5	Increased efficiency of marketing	11	13.75
6	Employees can work remotely	6	7.5
7	Customer relationship improved	6	7.5
8	Customer base has increased	2	2.5
9	Operational costs reduced	5	6.25
10	Increased revenue	6	7.5
<b>Total</b>		<b>80</b>	<b>100</b>

Despite Table 4 showing the benefits realized by those who have adopted ICT. Several have abandoned it due to the challenged indicated on table 2. It is safe to suggest that even in the context of Busiro West ICT adopt in SMEs will improve business performance in both the long run and short run (assuming to the usage is sustained).

#### 5.0 CONCLUSION

This study explores the perception of ICT adoption on SME performance from the perspectives of the owner-managers. Over 57% of respondents indicated that their enterprise already gained from the limited levels of ICT adopted. In spite of these observed benefits several owner-managers are forced to abandon it due to challenges ranging from high costs to security issues. The overall level of ICT adoption is quite low. This study however confirmed that ICT adoption has a significant positive relationship on SME performance in Busiro West Wakiso District, Uganda. This study however does not confirm causation, this is something that can be explored in future research.

There were several conclusions that could be made from the findings in this study. To begin with, the study has shown that ever since respondents began implementing the ICT infrastructure, there has been growth in their

SMEs performance, therefore:

1. There is significant relationship between ICT adoption and SME performance
2. Challenges of ICT infrastructure has a significant impact limiting adoption of ICT in SMEs and it is the government's role to regulate and build a clear infrastructure for business proprietors
3. Owner-managers agree that ICT adoption enhances business performance
4. There is a need for government intervention to make the uptake of ICT adoption more palatable.

On the basis of the findings of this study the following recommendations can be made. ICT adoption is perceived by owner-managers as a good thing for their businesses, but there are several impediments to their consistent adoption and use:

1. The government needs to help reduce the cost of acquisition of quality ICT infrastructure in terms of hardware, software and the internet. Since it is suggested that ICT adoption improves business performance, this means government can improve taxation, employment and economic growth generally by the one gesture of making ICT more accessible for businesses (SMEs in particular).
2. Service providers need to be innovative and come up with more affordable packages that are tailor to the financial ability and operational needs of SMEs.
3. Owner-managers need to understand the fact that ICT is the most effective leverage for future business viability regardless of size. The covid pandemic proved this through the traction that several SMEs acquired by adopting ICT and thus remained in business as their contemporaries failed.
4. The general public, in this case in Busiro need to be sensitised on the benefits and how to use ICT in accessing services safely.

## REFERENCES

1. Ab Wahab, N. Y., Mohamad, M., Yusuff, Y. Z., & Musa, R. (2020). The importance of ICT adoption in manufacturing sector: an empirical evidence on SME business performance. *International Journal of Supply Chain Management*, 9(2), 268-272.
2. Abdullah, S. S. (2014). Role and challenges of ICT adoption by SMEs in India. *Facts for You*, (March 2014), 22-25.
3. Agboh, D. K. (2015). Drivers and challenges of ICT adoption by SMES in Accra metropolis, Ghana. *Journal of Technology Research*, 6, 1.
4. Ashrafi, R., & Murtaza, M. (2013). ICT adoption in SME in an Arab GCC country: Oman. *Small and Medium Enterprises: Concepts, Methodologies, Tools, and Applications*, 792-815.
5. Baporikar, N. (2022). ICT Adoption Implications for SME Innovation and Augmentation. *International Journal of Innovation in the Digital Economy (IJIDE)*, 13(1), 1-20.
6. Bayo-Moriones, A., Billón, M., & Lera-López, F. (2013). Perceived performance effects of ICT in manufacturing SMEs. *Industrial Management & Data Systems*, 113(1), 117-135.
7. Beynon-Davies, P. (2018). Characterizing business models for digital business through patterns. *International journal of electronic commerce*, 22(1), 98-124.
8. Çalli, B. A., & Coşkun, E. (2019). Understanding the Level of ICT Adoption at SMEs from the Entrepreneurship Orientation, Individual Innovativeness and ICT Literacy Perspectives.
9. Chairuel, L., Widyarto, S., & Pujani, V. (2015). ICT adoption in affecting organizational performance among Indonesian SMEs. *The International Technology Management Review*, 5(2), 82-93.
10. Cohen, J. (1988). Set correlation and contingency tables. *Applied psychological measurement*, 12(4), 425-434.
11. Eze, S. C., Chinedu-Eze, V. C., Bello, A. O., Adegun, A. A., & Alao, M. E. (2019). Challenges facing SMEs in emerging ICT adoption from diverse actors' perspectives: A data driven approach. <http://www.iaeme.com/IJMET/index.asp>, 10(2), 636-651.
12. Gono, S., Harindranath, G., & Özcan, G. B. (2013). Challenges of ICT adoption by South African SMEs: A study of manufacturing and logistics firms. In *Annual Conference of The Institute for Small Business and Entrepreneurship* (pp. 1-23).
13. Ibrahim, W., Turyakira, P., & Katumba, P. M. (2019). E-commerce adoption and growth of SMEs in Uganda. *International Journal of Business and Management*, 14(1), 46-54.
14. Kyakulumbye, S., & Pather, S. (2022). Understanding ICT adoption amongst SMEs in Uganda: Towards a participatory design model to enhance technology diffusion. *African Journal of Science, Technology, Innovation and Development*, 14(1), 49-60.
15. Lindgren, P. (2022). *NEW global ICT-based business models*. CRC Press.
16. Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: Quantitative and Qualitative. Approaches*. Nairobi; African Centre for Technology Studies.
17. Olise, M. C., Anigbogu, T. U., Edoko, T. D., & Okoli, M. I. (2014). Determinants of ICT adoption for improved SME's performance in Anambra State, Nigeria. *American International Journal of Contemporary*

- Research, 4(7), 163-176.
18. Ong, S. Y., Habidin, N. F., Salleh, M. I., & Fuzi, N. M. (2016). The relationship between ICT adoption and business performance in Malaysia and Indonesia. *Malaysian Journal of Society and Space*, 12(12), 40-49.
  19. Osunsan, O. K., Kinyatta, S., Baliruno, J. B., & Kibirige, A. R. (2015). Age and performance of small business enterprises in Kampala, Uganda. *International Journal of Social Science and Humanities Research*, 3(1), 189-196.
  20. Schleutker, K. E. J. (2022). Detecting, defining and developing soft skills in business and ICT contexts (Doctoral dissertation, Universitat Politècnica de València).
  21. Setiowati, R., Daryanto, H. K., & Arifin, B. (2015). The effects of ICT adoption on marketing capabilities and business performance of Indonesian SMEs in the fashion industry. *Journal of Business and Retail Management Research*, 10(1).
  22. Simon, N. P., Osunsan, O. K., & Byamukama, G. A. (2022). Marketing Practices on Firm Performance among Insurance Firms in Juba Central Equatoria State, South Sudan. *International Journal of Management Sciences and Business Research*, 11(7), 12-24.
  23. Suriyapperuma, H. P., Ab Yajid, M. S., Khatibi, A., & Premarathne, S. P. (2015). The impact of internet adoption on SME performance in Sri Lanka: Development of a conceptual framework. *International journal of arts and commerce*, 4(1), 46-58.
  24. Turyahikayo, E. (2015). Challenges faced by small and medium enterprises in raising finance in Uganda. *International Journal of Public Administration and Management Research*, 3(2), 21-33.