

Information and Communication Technology Adoption and the Growth of Small Medium Enterprises in Uganda: Empirical Evidence from Kampala City Council Authority

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Abstract

The study used cross sectional study design and data were collected from business owners operating within the divisions of Kampala Capital City Authority. The study found out that the level of ICT adoption in Kampala Capital City Authority was moderate. ICT adoption was mostly marked with establishment of separate IT department, use of bulk SMS, printers, scanners and photocopiers. Specialized ICT skills, regular updates and outsourcing of ICT functions appeared to be a key challenge businesses face in ICT adoption. The findings however, indicated that growth of SMEs is a conglomeration, of which adoption of ICT is a microcosm. The study recommends that Government of Uganda through Ministry of Science Technology and Innovation and Ministry of Finance Planning and Economic Development should consider promoting ICT business growth by sponsoring business software development, and distributing the same at subsidized costs. Training institutions should strengthen the ICT training programs by aligning them to the required job demands as dictated in the field of business. Government should also promote the application and adoption of ICT e-business by slashing the exorbitant taxes charged on the use of these products. Government should stimulate entrepreneurship development training to curb the shortfalls in staff competence, individual job creation and profitability skills.

Keywords: ICT, SMES, Adoption, Business, Growth

Contextual Background

The rapid growth and development of information and communication technologies (ICT) has greatly influenced how businesses are operated and managed in the 21st century. Today's businesses are faced with evolution and rapid changes as a result of the wide diffusion of information and communication technologies within organizations. The adoption and usage of ICT brings along competitiveness and thus leads to economic growth for economies that are able to exploit such opportunities (Steinfeld, LaRose, Chew, & Tong, 2012). ICT gives SMEs a competitive advantage in the evolving economy since Managers rely on ICT to store data, share information and make informed decisions. Thus, ICT has a potential to support more efficient and effective decision-making relevant to the performance of SMEs businesses and hence creating competitiveness and innovativeness for business growth (Barba-Sanchez, Martinez-Ruiz, & Jimenez-Zarco, 2007).

Franco, Santo & Ramalho (2014) noted that fast-paced technological innovation is fueling development and transforming multiple business functions. The strategic orientations of SMEs are important in that it influences the extent to which SMEs would analyze its demand and competitive environments. Strategic orientations are also indicators of the way SMEs adopt and use information about market opportunities and employ product market innovations that brings growth (Aragon-Sanchez & Sanchez-Marin, 2005). SMEs are driven to adopt appropriate ICTs for improving their internal processes, improving their product through faster communication with their customers, and better promotion and distribution of goods and services through online presence. Although ICTs are much cheaper than before, they still represent a considerable investment for SMEs that usually lack such funds. Besides, SMEs usually do not have the appropriate skills available in-house and thus have to train existing staff or outsource most ICT functions of the organization. Whatever the situation, ICT remains a key pillar for modern business transformation and innovation for better production of products and services.

Problem Statement

Government of Uganda in its restructuring program is encouraging Ugandans to start own businesses to reduce the level of unemployment and exploit the current East African Markets. As a result, many SMEs have come up in areas such as Entertainment, Transport, Metal Fabrications and Food and Agriculture. However, SMEs may not understand the ways in which ICT could enable them to operate businesses more efficiently or cost effectively. Thus, most of these businesses do not show growth signs and remain struggling due to various challenges. Consoli (2012) noted that SMEs face various barriers to ICT adoption partly because SMEs have limited resources, technology and capabilities although the less complicated structure allows smaller companies more flexibility to changes. Similarly, (Aleke, Ojiako, & Wainwright, 2011) observed that the barriers to adoption of ICT in SMEs in rural areas include lack of awareness, top management support and infrastructure. National Small Business Survey Report (2015) corroborated that it has not been easy for SMEs to adopt e-business partly due to the continuous change of e-business technology and the varying needs of the local and global businesses. Sempala & Mukoki (2018) stated that the government needs to improve the ICT infrastructure coverage to enable Macro, Small and Medium enterprises to utilize the online market-base that can enhance sales.

The growth and development of technology requires one to keep pace with the changing environment needs and this requires the SMEs to keep a brace with the new technology. The ever-changing ICT environment requires regular updates and training to remain a brace of development and opportunities (Modinmogale & Kroeze, 2011). It is thus apparent that in spite of efforts being made by many organizations to use ICT solutions to support their supply chain strategy, challenges still exist that inhibit effective integration (Christopher, 2011). Lack of internal capabilities, high cost of ICT acquisition and lack of information about suitable ICT solutions and implementation are some of the limitations. It is upon this background that this study assessed better ways of handling such challenges and presents better recommendations to address such challenges.

Objective of the Study

1. To determine the level of ICT adoption in to business transactions by SMEs.
2. To establish the factors hindering effective ICT adoption into businesses by SMEs.
3. To analyze the ICT adoption and its impact on profitability of SMEs businesses
4. To Propose strategic interventions for effective adoptions of ICTs by SMEs.

Literature Review

Information and Communication Technology

Technology advancement and usage of ICT has always been part of organizational efficiency and organizations take investment in technology as part and parcel of their annual plan to widen the market share (Aleke, Ojiako, & Wainwright, 2011). The increase in the usage of ICT in the emerging economies has presented new frontiers for technology to enhance SMEs operations and management. ICTs are universally recognized as an essential tool in improving the competitiveness of the economy in a country, and have significant effects on the productivity of companies (Olviera & Martins, 2011). ICT gives SMEs a competitive advantage in the new economy and it has the potential to support more efficient decision-making relevant to the performance of SMEs and make them more competitive and innovative, thus generating growth (Barba-Sanchez, Martinez-Ruiz & Jimenez-Zarco, 2007)

Aguilera, Cuevas-Vargas & Gonzalez (2015) observed that adoption of ICT plays a key role in developing business strategies that enable businesses, especially SME in improving their competitiveness in a globalized, changing and competitive market today. Similarly, (Olise, Anigbogu, Edoko, & Okoli, 2014) argued that the influence of globalization on SMEs that has compelled many of them to adopt (ICT) solutions in order to survive among increasingly competitive supply networks. The benefits of application of ICT in the enhancement of SMEs services is not only limited to cost reduction benefits alone, the innovation is found also to have significant contribution to giving access to customers residing outside the branch network and create opportunities for effective cross-selling amongst others thus earning profitability (Sachan & Ali, 2006). Ollo-Lopez & Aramendia-Muneta (2012) established that adoption and usage of ICT represent the fundamentals of competitiveness and economic growth for companies and countries that are able to exploit. Asta & Rimantas (2013) noted that ICT has an impact on the improvement of external and internal communication and that ICT plays a major role in innovation performance of SMEs. Ongori & Migiro (2010) noted that new technological

innovations enable and facilitate a broad range of business activities related to the storage, processing, distribution, transmission and reproduction of information. Accordingly, (Ghobakhloo, Sabouri, Hong, & Zulkifli, 2011) observed that adopting ICT in business operations and management will support SMEs in cost saving, organizational effectiveness, improvement of services to customers and suppliers, access to new business opportunities and market information, competitiveness and internationalization. Osei & Harvey (2011) observed that investments in ICT by SMEs tend to increase profitability (Return on Assets and Return on Equity) for high ICT level SMEs than for lower ICT level SMEs. The adoption of ICT in business usually entails additional costs, which may include training of employees, continuous system upgrade, which may need to be taken into account especially in the case of SMEs (Tan, Chong, Lin, & Eza, 2010). Khalifa (2016) noted that research and development and innovation profile of firms has been frequently linked to the adoption and/or use of new technologies. Ioannis, Alexandra, Efthymia & Aggelos (2017) observed that specialized ICT skills are probably more significant than general scientific knowledge for the engagement of SMEs in e-commerce. From the organizational perspective, a decentralized structure of firm's decision-making process along with the presence of visionary leaders is crucial in facilitating adoption of ICT in the operations and management of SMEs. Accompanying technological developments, expectations are continually increasing for businesses to improve the effectiveness and efficiency of existing processes and generate value through the exploitation of new opportunities (Ashurst, Cragg & Herring, 2012). Similarly, (Jones, Packham, & Beckinsale, 2013) observed that digital technologies represent a key concern for SME managers and policy makers. George, Yanqing, Anne-Marie & Jared (2017) argued that business performance appears to improve as SMEs organizations adopt information technology to facilitate greater market communication and increased exposure to online shoppers. Furthermore, irrespective of the level of sophistication of the interface, the design of the E-commerce technology and the high information intensity types of the industry improves performance. It has been observed that internet technologies have entirely eased the way towards an electronic economy that enables innovative business tactics (Lecic-Cvetkovic, Omerbegovic-Bijelovic, Zaric, & Janicic, 2015).

Similarly, website usage has been considered as a tool to leverage competitive advantages in a diverse range of activities (Mohammadi & Abrizah, 2013). The greater the perceived relative advantage of having an online presence, the greater the website continued intention in SMEs. Ramayah, Niu, Seyedeh & Syed (2016) observed that SMEs are likely to continue to adopt their website when cost of the technology is reasonable and continue to drop as more service providers come to the market. Kumar, Singh & Shankar (2016) observed that to achieve competitive advantages SMEs should strategically implement collaboration and information sharing practices in their supply chains. Gupta & Narain, (2012) noted that deployment of IT in SMEs is helpful in better inventory control, reducing cost and time and improving customer services. ICT has surpassed the role of support services or only electronic data processing. The devices especially the internet and modern computer email facilities have further strengthen early modernization like websites, teleconferencing and fax. Other ICT devices include data recognition equipment, factory automation hardware and services, tele-computing and teleconferences using real time and online system (Adeoti, 2005).

Polasik & Wisniewski (2008) observed that as the internet use became popularized in the 90s by most SMEs, there was a marked proliferation of e-commerce by most SMEs and this increased on communication and profitability. Ovia (2005) corroborated that ICT has brought far reaching revolution in societies, which has tremendously transformed most business scenes. Nasir & Zhu (2018) noted that lack of e-commerce skills and absence to innovation awareness among the society was the major factor that influenced the adoption of electronic commerce within the SMEs in the developing economy. The OECD, (2017) reports confirmed that the situation of the costs of adopting and implementing ICT resources and upgrading e-commerce network system in many organizations is not very satisfactory in many developing economies. Ghobakhloo & Tang, (2013) augmented that it is clear that the high cost of ICT infrastructure in many developing economies does not allow SMEs to adopt new technologies and influence the growth of e-commerce. Ghobakhloo & Tang, (2013) and Hachimi *et al.* (2017) noted that the size and structure of the organization were the most frequently considered factors in e-commerce adoption. Kiplangat, Shisia & Asienga (2015) noted that the knowledge in ICT Innovation among the employees have a significant influence on the adoption of e-commerce among the SMEs. Agbolade (2011) observed a positive relationship between Banks profitability and adoption of ICT. This implies that a marginal change in the level of investment and adoption of ICT in the banking industry results to a proportionate increase in the profit level.

Small Medium Enterprises (SMEs)

SMEs have played a major role in economic growth of national economies in many countries and contribute significantly to employment creation (Higon, 2011). There is no universally accepted definition of SMEs in Africa, thus this study adopts the Government of Uganda's classification of SMEs as business firms employing 5-50 people (Small Scale) and 51-500 people (Medium Scale) (Kasekende & Opondo, 2003; UBOS, 2003; Okello-Obura 2011, 2012). SMEs operate in nearly all industrial sectors of the economy, represent more than 90per cent of formal enterprises, and contribute to over 50per cent of employment and Gross Domestic Product (GDP) (Akinbiade, 2015). Even though SMEs globally have similar characteristics, the environments within which they operate affect their profitability. The need to understand the impact of SMEs management practices would have on the growth and profitability of SMEs is therefore critical to provide policy recommendation by all stakeholders. The potential advantages of the SMEs in developing country like Uganda are many. First, they use less capital per worker than large firms do, because of the differences in the technology used to make the same products (Private Sector Foundation Uganda2014). Similarly, (Mandl, 2009) argued that SMEs use resources that might not be drawn into the development process such as workers with little formal training who learn on the job or those who may not use the banking systems but who may invest in their own firms.

Aguilera-Enriquez, Gonzalez-Adame & Rodriguez-Camacho (2011) argued that SMEs need to modernize their management and production using technologies that can help compete in the future and include systems that can improve their functions to be more productive. Binuyo & Aregbeshola (2014) noted that the study noted that the use of ICT increases return on capital employed as well as return on assets. The study also noted that more of the contribution to performance comes from ICT cost efficiency compared to investment in to ICT. Rakibul, Abu-Naser, Adnan & Yukun (2015) noted that government should promulgate rules in favor of SMEs

by easing the coverage and making ICT adoption easily available and accessible to all. Mokaya (2012) posited that the government should develop an appropriate programme to encourage ICT adoption by SMEs and support training programmes that develop the capacity of SMEs. In other words, governmental policies should be favorable enough for new firms to enter into the venture. Aguilera, Colin & Hernandez, (2013) observed that adoption of appropriate technological tools enable SMEs to have systems to accurately monitor their finances and administrative processes, improving their competitive level. Eton, Mwosi, Mutesigensi & Ebong (2017) noted that SMEs should embark on increased business diversification and this would increase their productivity levels thus leading to increased profit.

Luis, Hector & Marthe (2015) noted that ICT has helped the SMEs to receive orders from customers and making them get in touch with suppliers when ordering, support management of the company in project planning, development of production process, improvement of machinery and equipment and the development of information technology. Lee, Park, Yoon & Park (2010) observed that new business models for ICT provide SMEs with access to new markets and new sources of competitive advantage. Similarly, (Maldonado, Sanchez, Gaytan & Garcia, 2012) found out that SMEs with greater use of ICT gains greater performance. It can thus be confirmed that ICT represents a great opportunity for companies, especially SMEs to improve their level of competitiveness. However, it has been argued that SMEs are sometimes able to exploit ICT opportunities and adopt ICT more easily than larger organizations, simply because of the flexibility advantage they possess that makes their decision-making faster (Awa, Eze, Urieto & Inyang, 2011)

Limited access to finance has been cited as the major hindrance to the development of SME (Akterujjaman, 2010). The major hindrance towards ICT diffusion is government support and poor physical infrastructure as posited by (Irefin, Abdul & Tijani, 2012). Being a major player in the economy, SMEs are urged to become more resilient and competent to face the challenges in today's knowledge economy. Wong *et al.* (2013) observed that the failure of SMEs to adopt ICT with globalization and rapid changes in technologies might lead them to cease the business within the first five years of operations. Buyinza, Mutenyo, Kakande & Banga (2017) noted that providing business training, easing access to credit, business education and record keeping are required to promote SMEs start-up sizes and increased performance. Yeboah (2015) complemented that the educational qualifications of the entrepreneurs and the size of the enterprise had the most significant influence on the growth of SMEs. The owners of the SMEs must be educated, even if it is not by formal schooling but periodically attend short trainings like seminars and workshops to attain the requisite knowledge to support business growth. Mutesigensi, Eton, Ebong & Mwosi, (2017) noted that government and other stakeholders should provide training on financial management to SMEs to ensure that they get basic knowledge to help them in their daily operations of businesses. These would also build the culture of relationship with all stakeholders both internal and external. Urban & Naidoo (2012) argued that lack of operational skills threatened the survival of SMEs thus entrepreneurs should have expertise in all functional areas of business. Douglas, Douglas, Muturi & Ochieng (2017) noted that maintaining good relationships with customers, having a good product or service, having good marketing skills and creating brand customers are critical success factors in SME businesses.

Methodology

The study used cross sectional design and data were collected from respondents operating businesses within the five divisions of Kampala Capital City Authority, which included Central, Rubaga, Nakawa, Makindye and Kawempe divisions. The SMEs investigated included Small medium and Large SMEs. A total of 250 respondents were targeted with each division having 50 respondents using stratified sampling technique. In all cases, the study targeted merchandize, service, and manufacturing and production business owners. However, a total of 223 businesses participated, of which 32 (14.3%) were merchandize type of business, 110 (49.5%) were service providers, 44 (19.8%) were manufacturers while 36 (16.5%) were production business. The structured and closed ended questionnaires were developed and used to cater for all categories of SMEs Questionnaires were used because of their ability to reduce bias alongside increasing the quality of data collected (Sekaran, 2006). Factors analysis was used in determining the accuracy and measuring the instrument. Cooper & Schinder (2011) observed that factor analysis determines the patterns among the variables, which determine the combinations among the variables to a manageable size. Correlation was used to establish the strength of the relationship between Information and Communication Technology adoption and the growth of Small Medium Enterprises in Uganda. Regression analysis was used to provide a linear prediction of SMEs growth.

Table 1:

Adoption of ICT

Results Variable List	Unimportant	Neutral	Important	Mean	Std.
1. Establishment of separate IT department	37.2	21.7	41.2	3.12	1.300
2. Use of bulk SMS	42.9	26.1	31	2.91	1.255
3. Use of printer, photocopier and scanner	43.4	17.7	38.9	2.90	1.430
4. Use of landline telephone	43.9	31.9	24.3	2.69	1.218
5. Use of computer systems	52.6	15.5	31.9	2.61	1.475
6. Use and access to internet	53.1	18.6	28.3	2.61	1.404
7. Use of business software	53.5	24.3	22.1	2.57	1.250
8. Use of emails	52.2	19.5	28.3	2.53	1.405
9. Use of company website	65	7.1	27.9	2.43	1.640
10. Use of mobile phones	60.1	12.8	27	2.38	1.397
Average	50.4	19.5	30.1	2.68	1.38

Source: Field data, 2019

To understand the level of adoption of ICT in Kampala, the research examined the importance attached to adoption of ICT by different businesses. Participants had to make choice on how they perceived the importance of the different ICT facilities. Participants attached much importance to establishment of separate IT department (41.2%), use printers, scanners and photocopier (38.9%) and use of bulk SMS (31.0%). Important to note is that 37.2per cent could not see the importance of establishing a separate IT department in their business while 43.4per cent could

not see the importance of printer, scanner and photocopier to their business. Least importance was rendered to the use of business software (22.1%) and use of landline telephones (24.3%). The statistics suggest that very few of the businesses investigated were applying specialized business software in their business. While the specific software could not be established, those in services (secretarial, ICT applications, hotels) and perhaps manufacturing could have had specific business software in their business. The seemingly least importance attached to landline telephones (43.9%) could be attributed to the changing technology in communication, which has transited to use of mobile phone handsets than ever before. Similarly, least importance was rendered to the use of mobile phones (60.1%) perhaps because it is interpreted as a communication device and not a computerized device that can contribute to business growth. The statistics indicated that 65.0per cent saw the use of company website as unimportant. This indicates how low businesses are in the adoption of ICT. In the absence of a website, how can the business be popularized to the outside world? On the whole, 30.1per cent indicated adoption of ICT to be important while 50.4per cent indicated the adoption of ICT as unimportant. The majority who indicated the unimportance of adoption of ICT were perhaps those in merchandize and production.

The findings indicated a moderate level of ICT adoption (mean = 2.68; std. =.138). Though in moderate levels, establishment of a separate IT department (mean = 3.12; std. = 1.300), use of bulk SMS (mean = 2.91) and use of printer, copier and scanner (mean = 2.90; std. = 1.255). The statistics imply that the few business organizations that were adopting ICT had a separate IT department, were using bulk SMS and had printers, copiers and scanners in their businesses. Low levels of adoption of ICT were associated with use of mobile phones (mean = 2.38) and use of a company website (mean = 2.43). Meanwhile, the businesses investigated could barely support a website, implying they could at least afford the use of mobile phones. However, the use of mobile phones appeared with a low mean perhaps because mobile phones are not considered as ICT facilities. Nonetheless nearly all the businesses investigated used mobile phones in their operations in some way than any other ICT facility. On the whole, the study indicated a moderate level of adoption of ICT in SME businesses.

Table 2: Challenges of adoption of ICT

Variable List	Disagreement	Neutral	Agreement
1. ICT requires specialized skills, which we do not have	30.6	14.6	54.9
2. ICT requires regular updates	32.7	15.9	51.3
3. We find it expensive to outsource ICT functions	30.5	19	50.5
4. We find lack funds to invest in ICT	30.5	21.2	48.3
5. ICT require regular training	37.1	15	47.8
6. We lack information about suitable ICT solutions	25.2	27	47.8
7. Most of our business are lacking awareness about ICT	37.6	15	47.3
8. Adopting ICT involves high costs of acquisition	32.3	21.7	46
9. We still have low ICT infrastructure coverage	38.5	18.1	43.4
Average	32.8	18.6	48.6

Source: Field data, 2019

In line with the challenges business owners encountered in the adoption of ICT, 54.9% pointed to the need for specialized ICT, which they apparently do not have; 51.3% pointed to the need for regular updates while 50.5% pointed to the need for outsourcing of ICT functions, which are very expensive to the business. The statistics in Table 2 further suggest that businesses find it hard to adopt ICT basically because of the specialized skills requirement and the associated costs. In this regard, 48.3per cent of the respondents claimed to lack funds to invest in ICT, 47.8per cent claimed that ICT requires regular training, which they may not have or afford. In all these cases, the research found that the most limiting factor to ICT adoption is the financial constraint. On the whole, 48.6per cent agreed to face challenges in adopting ICT in business while 32.8per cent disagreed. While the disagreement does not indicate absence of challenges, they indicate the level to which they are affected by the challenges investigated in the study. For example, the 38.5per cent who disagreed on having low ICT infrastructure coverage suggest that the problem exists but does not heavily affect their adoption of ICT.

Table 3:
Growth of SMES

Variable List	Disagreement	Neutral	Agreement
1. This business efficiently utilizes capital to generate profits	44.7	19.5	35.9
2. This business is registering increasing assets	47.4	22.1	30.6
3. We have increased levels of customer orders	64.6	5.8	29.6
4. This business is registering steady increase in income	50.4	19.9	29.6
5. This business is selling multiple products	49.1	21.7	29.2
6. We have a wider access to new markets	51.8	19.5	28.8
7. This business has a cheap source of raw materials	58.8	13.7	27.4
8. This business has enough cash to sustain its operations	44.7	27.9	27.4
9. This business has a cheap source of raw materials	58.8	13.7	27.4
10. This business is registering steady increase in capital	46	27	27
Average	51.6	19.1	29.3

Source: Field data, 2019

The findings on growth of SMEs indicated that 35.9per cent of the businesses were efficiently utilizing their capital to generate profits and 30.6per cent were registering increasing assets. These statistics are very low to suggest stable growth of SMEs. In fact 64.6percent disagreed to increasing their level of customer orders, 58.8per cent disagreed to having cheaper sources of raw materials, and 51.8 per cent disagreed to having a wider access to new markets while 50.4per cent disagreed to registering a steady increase in income. These statistics suggest numerous unearthed challenges, which businesses undergo to grow. The statistics further suggest that most of the businesses investigated find it hard to sustain and or increase customer orders due to challenges associated to raw materials and markets. Overall, 29.3 percent of the participants agreed to the claims raised in this research on SMEs growth while 51.6 percent disagreed. These statistics suggest staggering levels of business growth, though the current study could not succinctly establish the level of staggering.

Table 4:

Adoption of ICT and SMEs growth

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	.671	.113		5.929	.000
ICT Adoption	.757	.040	.786	19.041	.000
R	.786 ^a				
R Square	.618				
Adjusted R Square	.616				
Std. Error of the Estimate	.57964				
Regression	121.8				
Residual	75.3				

a. Dependent Variable: SMEs Growth

b. Predictors: (Constant), ICT Adoption

The relationship between adoption of ICT and growth of SMEs ($r = .786$; sig. $< .05$) was found to be strong and significant. This means that any change in the adoption of ICT by government, business owners, media and schools are likely to generate a strong and positive change in the growth of small and medium enterprises. The statistics also indicate that adoption of ICT is likely to affect SMEs growth by 61.6% as evidenced from (Adjusted R Square = .616). This suggests that Adoption of ICT has a high impact on promoting SMEs growth. However, the remaining 38.4 percent unaccountable by adoption of ICT implies the existence other sets of factors that are responsible for the growth of SMEs around Kampala. Potentially, a unit-change in adoption of ICT is likely to generate 78.6per cent amount of change in growth of SMEs around Kampala. ANOVA results indicate that regressions sum of squares (121.8) is higher than the residual sum of squares (75.3). These statistics indicate that the current model is adequate in explaining the level of variations in growth of SMEs around Kampala.

Discussion

The study found a moderate level of ICT adoption on growth of SMEs in Kampala Capital City Authority. This was indicated by establishment of a separate IT department, the use of bulk SMS and use of printers, scanners and photocopiers. The study agrees with (Migiro, 2010) who noted that new technological innovations enable and facilitate a broad range of business activities related to the storage, processing, distribution, transmission and reproduction of information. The scanners, photocopiers and printers process and reproduce information for business consumption while bulk SMS improve external communication, improves access to business opportunities and market information. Similarly, the printers, scanners and photocopiers reduce the costs of producing and storing information, which helps the business to remain competitive. The findings however disagree with Tan, Chong, Lin & Eze, (2010) who found that the adoption of ICT in business usually calls for additional costs related to training of employees and upgrading

of the system, which costs the business may be lacking. ICT is a new field, which many have embraced, yet few carry practical skills in it. However, since the world of business dictates the use of modern technology, business owners have no option than to invest in the training of their employees in ICT skills.

The study found the usage of internet and company website as unimportant component of ICT in business. This is characteristic of SMEs, which embrace the traditional approaches to communication and access to information. Today, access to the internet is no longer an option to business owners as before. Most of the businesses can keep and remain in touch with their customers and suppliers via the net. The results therefore disagree with (Lecic-Cvetkovicetal, 2015) who posited that the internet technologies have eased the way towards an electronic economy that enables innovation and business tactics. Internet technologies can boost business growth only when businesses invest in internet technology. However, when business owners consider the costs associated and shun away from such investment, little business growth is likely to be realized. The study further found that ICT requires specialized training, which most businesses lack. The findings agree with (Nasir & Zhu, 2018) who established that lack of e-commerce skills and absence of innovation awareness are among the major factors that hinder adoption of electronic commerce within SMEs in the developing economies. It can be argued that businesses that have labored to invest in the ICT skills of their employees appear to be performing well. Though this may not call for sophisticated technology that might sound expensive, a little application of ICT for example in printing and photocopying can reduce the business' operational costs on secretarial services.

The study found a positive and strong relationship between ICT adoption and growth of SMEs. A variation in the level of ICT adoption was likely to positively and strongly vary the level of growth of SMEs. The findings agree with (Agbolade, 2001) who found a positive relationship between bank profitability and adoption of ICT. Profitability is a good measure of a business' financial performance, whose increasing level indicates business growth. In a similar study, (Luis, Hector & Marthe, 2015) found ICT to be helpful to SMEs in receiving orders from customers in addition to helping business owners to get in touch with their suppliers. These benefits span beyond the traditional communication approaches of postal addresses. The use of internet, webmail, bulk SMS and website communication can contribute greatly to communication between the business, partners, customers and suppliers.

Conclusion

The study examined the level of ICT adoption around Kampala Capital City Authority, which was found to be moderate. ICT adoption was mostly marked with establishment of separate IT department, use of bulk SMS and use of printers, scanners and photocopiers. These are the least ICT adoptions that are likely to open gates to massive adoption of ICT. A mere identification of an IT department pushes management and directors to investing in IT. Similarly, bulk SMS reduce the costs of communication the same way printers, photocopiers and scanners reduce expenditure on secretarial services. Mobile phones in this study appeared among the least indicators of ICT adoption in Kampala Capital City Authority possibly because they are not considered as an ICT facility. Otherwise, lay reasoning points to mobile phones as the most applied ICT facility in business. Any reporting that contradicts this reasoning can be associated to

misinterpretation of the research instrument. The need for specialized ICT skills, regular updates and outsourcing of ICT functions appeared to be fundamental among the challenges businesses face in ICT adoption. Businesses will keep staggering in growth for fear of the costs involved in adopting ICT. However, if looked at from the viewpoint of using bulk SMS and mobile phones, ICT can easily be adopted by any business at any stage of growth. Relative to the adoption of ICT, businesses indicated to utilize their capital efficiently and were registering increasing assets and orders. This level of business growth is likely to increase especially among those businesses that may adopt ICT in their operations. This conclusion is drawn from the strong and significant relationship that was exhibited between adoption of ICT and growth of SMEs. This research however, noted that growth of SMEs is a conglomeration, of which adoption of ICT is a microcosm.

Significance of the Study

As a practical contribution to the practice of ICT, this paper brings to light the fact that though mobile phones seem to be ignored as ICT facilities, they considerably reduce communication costs of doing business. Bulk SMS speed communication at affordable costs leave alone reaching a wider clientele within the shortest time possible. This paper contends that businesses of all types can enjoy steady growth if they scale their adoption of mobile phones (the least of ICT facilities) in their business operations. As a theoretical contribution, this paper establishes a misconception held among business operators regarding the adoption of ICT in business. A number of business operators are not aware of the fact that mobile phones are ICT facilities. Mobile phones are indeed ICT facilities whose adoption in business can reduce operational costs. Beyond looking to setting up a separate IT department as the only way of adopting ICT in business, business operators ought to exploit the benefits mobile phones bring to their businesses. It is in reference to such misconception that adoption of ICT in business perceived to be costly.

Recommendation

Most of the growing businesses find it had to adopt ICT in their operations because of the related costs of installation and maintenance. Government of Uganda, through Ministry of Science, Technology and Innovation and Ministry of Finance Planning and Economic Development should consider promoting business growth by sponsoring business software development and distributing the same at subsidized costs. Universities and tertiary institutions should strengthen their ICT training programs by aligning them to the required job demands as dictated in the field of business. Government should promote the application and adoption of ICT e-business by slashing the exorbitant taxes that are charged on the use of these products. Government should stimulate entrepreneurship development training to curb the shortfalls in staff competence, individual job creation and profitability skills.

References

- Adeoti, J. O. (2005). Information Technology Investment in Nigerian Manufacturing Industry: The progress so far. *Selected papers for the 2004 Annual conference* .
- Adewoye, J. O., & Akanbi, T. A. (2012). Role of Information and Communication Technology Investment on the Profitability of Small Medium Scale Industries- A Case of Sachet Water Companies in Oyo State, Nigeria. *Journal of Emerging Trends in Economics and Management Sciences*, 3(1), 67 - 71.
- Agbolade, O. K. (2011). Information and Communication Technology and Banks Profitability in Nigeria. *Australian Journal of Business and management Research* , 1(4), 102.
- Aguilera-Enriquez, L., Gonzalez-Adame, M., & Rodriguez-Camacho, R. (2011). Small business competitiveness model for strategic sectors. *Advances in Competitiveness Research*, 19(3/4), 58-73.
- Akinboade, O. A. (2015). Determinants of SMEs growth and Performance in Cameroon's Central and Littoral Provinces Manufacturing and retail sectors. *African Journal of Economic and Management Studies* , 6(2), 183-196.
- Akterujjan, S. M. (2010). Problems and Prospects of SMEs loan Management: A study on Mercantile Bank Limited, Khulna Branch. *Journal of Business and Technology (Dhaka)* , 5(2), 1-10.
- Aleke, B., Ojiako, U., & Wainwright, D. W. (2011). ICT adoption in developing countries: Perspective from Small-Scale agribusiness. *Journal of Enterprise Information Management* , 24(1).
- Aguilera, E. L., Cueva-Vargas, H., & Gonzalez, A. M. (2015). The Impact of information and communication technologies on the competitiveness: Evidence of manufacturing SMEs in Aguascalientes, Mexico. *International Review of Management and Business Review*, 4(3).
- Aragon-Sanchez, A., & Sanchez-Marin, G. (2005). Strategic orientation, management characteristics and performance: A study of Spanish SMEs. *Journal of Small Business Management* , 43(3), 287-308.
- Asta, T., & Rimantas, G. (2014). ICT impact on SMEs Performance. *Procedia Social and Behavioral Sciences* , 110(2014), 1218-1225.
- Awa, H., Eze, S., Urieto, J., & Inyang, B. (2011). A major determinant of information technology (IT) adoption by SMEs in Nigeria. *Journal of system and information technology* , 13(2), 144-162.
- Barba-Sanchez, V., Martinez-Ruiz, M. D., & Jimenez-Zarco, A. I. (2007). Drivers, benefits and challenges of ICT adoption by Small and Medium sized enterprises (SMEs): A Literature review. *Problems and Perspectives in Management* , 5(1), 104-115.
- Binuyo, A. O., & Aregbeshola, R. A. (2014). The Impact of Information and Communication Technology (ICT) on Commercial Bank Performance: Evidence from South Africa. *Problems and perspectives in management*, 12(3).
- Buyinza, F., Mutenyo, J., Kakande, N., & Banga, M. (2017). Determinants of Firm Start-Up Size and Performance of Small and Medium Enterprises (SMEs): Empirical Evidence from Uganda. *Journal of Applied Business and Economics* , 19(12).
- Christopher, M. (2011). *Logistics and Supply Chain Management: Creating value-adding networks*, 4th edition. Edinburgh: Prentice Hall.
- Consoli, D. (2012). Literature analysis on determinant factors and the impact of ICT in SMEs. . *Procedia-Social and Bahaviral Sciences*, 62, 93-97.

- Dalis, D. T., & Anyatonwu, E. O. (2017). Effect of ICT Adoption on Competitive performance of Banks in an Emerging Economy: The Nigerian Experience . *Journal of humanities and Social Science* , 22(8).
- Douglas, J., Douglas, A., Muturi, D., & Ocheing, J. (2017). An Exploratory Study of Critical Success Factors for SMEs in Kenya. *20th International Conference, University of Verona. Verona, Italy* .
- Eton, M., Mwosi, F., Mutesigensi, D., & Ebong, C. D. (2017). Credit Financing and Performance of SMEs in Lira Municipality, Uganda. *Research Journal of Finance and Accounting* , 8(8), 121-127.
- Franco, M., Santos, M. F., & Ramalho, I. (2014). An exploratory study of entrepreneurial marketing in SMEs: The role of the founder-entrepreneur. *Journal of Small Business and Enterprise Development* , 21(2), 265-283.
- George, S., Yanquig, L., Anne-Maries, M., & Jared, M. H. (2017). Industry Characteristics, Stages of E-commerce Communications and entrepreneurs and SMEs revenue growth. *Technological Forecasting & Social Change. Elsevier.*
- Ghobakhloo, M., & Tang, S. H. (2013). The role of Owner/Manager in adoption of electronic commerce in small Business. The case of developing countries. *Journal of small business and enterprise Development* , 20(4), 754-787.
- Ghobakhloo, M., Sabouri, M. S., Hong, T. S., & Zulkifli, N. (2011). Information technology adoption in small and medium-sized enterprises: An appraisal of two decades literature. *Interdisciplinary journal of Research in Business*, 1(7), 53-80.
- Gupta, R., & Naqvi, S. K. (2014). A Framework for applying critical success factors to ERP implementation projects. *International Journal of Business Information System*, 17(4), 469-490.
- Higon, D. A. (2011). The impact of ICT on innovation activities: evidence for UK SMEs. *International Small Business Journal*, 30(6), 364-699.
- Ioannis, G., Alexandra, K., Efthymia, K., & Aggelos, T. (2017). What drives ICT adoption by SMEs? Evidence from a large-scale survey in Greece. *Journal of Business Research*.
- Irefin, I. A., Abdul-Azeez, I. A., & Tijani, A. A. (2012). An investigative study of the factors affecting the adoption of information and communication technology in small and medium scale enterprises in Nigeria. *Australian Journal of Business and Management Research*, 2(2), 1-9.
- Jones, P., Packham, G., & Beckinsale, M. (2013). SMEs adoption of enterprise applications: A technology-organization-environment model. *Journal of Small Business and Enterprise Development* , 20(4), 735-753.
- Kasekende, L., & Opondo, H. (2003). Financing Small and Medium – scale enterprises (SMEs): Uganda’s Experience. *Bank of Uganda working paper*.
- Khalifa, A. (2016). Determinants of information and communication technologies adoption by Tunisian firms. *Journal of innovation Economics and Management* 20(2), 151. *Journal of innovation Economics and Management*, 20(2).
- Kumar, R., Singh, R. K., & Shandar, R. (2016). Study on Collaboration and information sharing Practices for SCM in Indian SME. *International Journal of Business Information Systems*.
- Lecic-Cvetkovic, D., Omerbegovic-Bijelovic, Zaric, S., & Janicic, R. (2015). *E-Banking application in business companies- a case of Serbia*. Inf.Dev.
- Lee, S., Park, G., Yoon, B., & Park, J. (2010). Open innovation in SMEs- an intermediated network model. *Research policy* , 39(2), 290-300.

- Maldonado, G. G., Sanchez, G. J., Gaytan, C. J., & Garcia. (2012). Measuring the competitiveness level in furniture SME of Spain. *International Journal of Economics and Management Sciences*, 1(11), 9-19.
- Modinmogale, L., & Kroeze, J. (2011). The role of ICT within Small and Medium Enterprises in Gauteng. *Communications of the IBIMA 2011* , 2011, 1-13.
- Mohammadi, F., & Abrizah, A. (2013). *Information quality problems in Farsi Web-based learning resources: How do teachers assure of the content quality for classroom use?* Inf.Dev.
- Mokaya, S. O. (2012). The Adoption of Information and Communication Technology by Small Enterprises InThika. *International Journal of Business and Social Sciences* , 3(13).
- Mutesigensi, D., Eton, M., Ebong, C. D., & Mwosi, F. (2017). Cash Flow and Survival of SMEs in Arua District, West Nile Region Uganda. *International Journal of Small Business and Entrepreneurship Research* . , 5(5), 9-18.
- Nazir, A. M., & Zhu, X. (2018). E-Commerce adoption factors affecting the SMEs: A Case study investigation of a developing economy-Pakistan. *British Academy of management (BAM) BAM 2018 conference proceeding*.
- OECD. (2017). *Enhancing the contributions of SMEs in a global and digitalized economy*.
- Okello-Obura, C. (2011). Okello-Obura, C (2011) Utilization of ICTs by SMEs in record and information management in Uganda: A baseline study. *SA Archives Journal*, 1.
- Okello-Obura, C. (2011). Records and Information management practices among SMEs in Tororo district, Uganda. *Library Review* , 61(6), 447-469.
- Olise, M., Anigbogu, T., Edoko, T., & Okoli, M. (2014). Determinants of ICT adoption for improved SME's performance in Anambra state , Nigeria. *American International Journal of Contemporary Research* , 4(7), 163-176.
- Oliviera, T., & Martins, M. F. (2011). Literature review of information technology adoption models at firm level. *The electronic journal information system evaluation* , 14(1), 110-121.
- Ollo-Lopez, A., & Aramendia-Muneta, M. E. (2012). ICT impact on competitive, Innovation and environment. *Telematics and Informatics*, 29, 204-210. *Telematics and Informatics*, 29, 204-210.
- Ongori, H., & Migiro, S. O. (2010). Ongori, H., & Migiro, S.O (2010). Information and Communication technologies adoption in SMEs: Literature review. *Journal of Chinese Entrepreneurship*, 2(1), 93-104.
- Ovia, J. (2005). Enhancing the Efficiency of the Payment system in Nigeria . *CBN Bullion* , 29(1), 8-18.
- Polasik, M., & Wisniewski, T. P. (2008). Empirical analysis of internet banking adoption in Poland , *IJBM*, 27 (1), pp. 32-52.
- Rakibul, H., Abu-Naser, M. S., Adnan, M. A., & Yukun, B. (2015). Adoption of information and communication technology for development: A case study of small and medium enterprises in Bangladesh. *Information Development* , 32(4), 986-1000.
- Ramayah, T., Niu, S. L., Seyedeh, K. T., & Syed, A. R. (2016). Factors influencing SMEs Website Continuance Intention in Malaysia. *Telematic and informatics* , 33(2016), 150-164.
- Sekaran, U. (2006). *Research Methods for Business. A Sill Building Approach 4th Ed*. UNECA .
- Sempala, R., & Mukoki, J. (2018). Determinants of growth of micro, small and medium enterprises in developing countries. Evidence from Rubaga Division, Kampala District Uganda. *SSRN Electronic Journal*.

- Steinfeld, C., LaRose, R., Chew, H. E., & Tong, S. T. (2012). Small and Medium Sized enterprises in rural business Clusters: The relation between ICT adoption and benefits derived from cluster membership. *The information Society*, 28, 110-120.
- Tan, K. S., Chong, S. C., Lin, B., & Eza, U. C. (2010). Internet –based ICT adoption among SMEs: Demographic versus benefits, barriers and adoption intention. *Journal of Enterprise Information Management* , 23(1), 27-55.
- Uganda Bureau of Statistics (UBOS). (2003). *Uganda Bureau of Statistics (UBOS) (2003). A report on the Uganda Business Register, 2001/2002*. Uganda Bureau of Statistics.
- Urban, B., & Naidoo, R. (2012). Business Sustainability: empirical evidence on operational Skills in SMEs in South Africa. *Journal of Small Business and Enterprise Development*, 19(1), 146-163.
- Yeboah, A. M. (2015). Determinants of SME Growth: An Empirical Perspective of SMEs in the Cape Coast Metropolis, Ghana. *The Journal of Business in Developing Nations* , 14.