

# **EFFECTS OF TECHNOLOGICAL RESOURCES IN THE ADOPTION OF E-COMMERCE STRATEGY AMONG SMEs IN KENYA**

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## **Abstract**

*The paper assesses the effects of Technological Resources on the Level of adoption of E-Commerce strategy among Small and Medium Enterprises (SMEs) in Kenya. The main purpose of the study is to fill the empirical knowledge gap and to establish the role played by e-commerce in the growth and competitiveness of SMEs. The context of the study is the Small and Medium Enterprise sector which creates about 85 percent of Kenya's employment; a strategic national source of employment. The target population comprises of SME owners and managers in Kericho County. A sample of 323 SMEs were studied which comprised of those conforming to the provisions of MSE Act's (2012) definition of SMEs in Kenya and those licensed by the County Government. Questionnaires were used through personal interviews to collect primary data with structured and unstructured questions. Data was analyzed using*

*SPSS. Descriptive and inferential statistics are used to establish the relationships between the variables. The key findings of the study show that there is a positive relationship between Technological factors and Levels of E-Commerce adoption. Support in SME strategy development, policy to reduce cost of ICT hardware and software, availing ICT equipment to SMEs are among the recommendations made.*

*Keywords: Kenya, Technological Resources, E-Commerce adoption, Small and Medium Enterprises, Information Communications Technology*

## **INTRODUCTION**

Among the business environments in which organizations operate, the main ones are Political Economic, Socio-cultural, Technological, Legal and Ecological. The technological environments the world over have been rapid and have been spreading across the world without regard to the level of a country's development. The change in the technological environment over the last 15 years in Kenya has spread across the sectors prompting a requirement that businesses especially SMEs acquire ICT skills in order to function effectively in their operations.

ICT is any technology that enables communication and the electronic capturing, processing and transmission of information. These technologies include products and services such as desktop computers, laptops, handheld devices, wired or wireless intranet, business productivity software such as text editor and spread sheet, enterprise software, data storage and security, network security and so on (Ashrafi and Murtaza, 2008). According to Kollberg and Dreyer (2006), ICT has provided new ways to store, process, distribute and exchange information within companies and with its customers.

According African Centre for Technology Studies (2001), ICT has the potential to impact almost every aspect of the health sector. In public health, information management and communication processes are pivotal, and are facilitated or limited by the availability of information. In addition, beyond the formal health sector, the ability of impoverished communities to access services and demand a healthcare system that responds to their priorities and needs can be significantly influenced by broader information and communication processes, mediated by informed decision making.

While discussing the uptake of ICT, the Organization for Economic Co-operation and Development (OECD, 2004), states that lack of ICT skills and business skills are widespread impediments to effective uptake once adoption decisions are made. Governments have major roles in providing basic ICT skills in compulsory schooling, and an important role in conjunction

with education institutions, business, and individuals in providing the framework to encourage ICT skill formation at higher levels, in vocational training and in ongoing lifelong learning.

As stated by the Directorate of e- Government in Kenya (2011), “The achievement of e- Government is one of the main priorities of the Government towards realization of national development goals and objectives for wealth and employment creation. Effective and operational e-Government will facilitate better and efficient delivery of information and services to the citizens, promote productivity among public servants, encourage participation of citizens in Government and empower all Kenyans.”

ICT and e-commerce offer benefits for a wide range of business processes. At firm level, ICT and its applications can make communication within the firm faster and make the management of the firm’s resources more efficient. Seamless transfer of information through shared electronic files and networked computers increases the efficiency of business processes such as documentation, data processing and other back-office functions (e.g. organizing incoming orders and preparing invoices). Increasingly sophisticated ICT applications such as KMS (Knowledge Management System) and ERP (Enterprise Resource Planning) allow firms to store share and use their acquired knowledge and know-how. For example, customer databases with a history of client-specific correspondence help managers and employees to respond more effectively to customers. A company-wide electronic data source aims to disseminate employees’ professional experience, for example tips for winning a contract, from which others in the firm can learn (Buhalis & Schertler, 1999).

### **Small and Medium Enterprises in Kenya (SMEs)**

Kenya defines an SME based on the MSE Act 2012 which defines a Micro Enterprise as business that has less than Ksh.5million invested in it, or has sales of less than Ksh.500,000 a year, or has 1 – 9 people working in it. A Small Enterprise is a business that has sales of between Ksh.500, 000 – Ksh.1million a year, or has 10–50 people working it.

Notable among the key enablers of growth and development of SMEs is the proliferation of Information and Communications Technology (ICT). ICT is any technology that enables communication and the electronic capturing, processing and transmission of information. These technologies include products and services such as desktop computers, laptops, handheld devices, wired or wireless intranet, business productivity software such as text editor and spread sheet, enterprise software, data storage and security, network security and so on (Ashrafi and Murtaza, 2008).Barba-Sanchez et al (2007) state that a major challenge for SMEs has been the exploding advancement and the ever-growing ICT development within the past few decades. Further, SMEs can obtain a wide range of benefits from the use of ICT in the

areas of productivity, adoption of new organizational, strategic and managerial models, enable the access to new environments as well as the generation of new markets and business models and improve the qualification and specialization of human resources, which increases their efficiency and efficacy.

E-commerce an essential component of ICT and its deployment by large firms, have grown in tandem with the general growth of ICT usage in other fields. E-commerce can be referred to as “a general concept covering any form of business transaction or information exchange executed using information and communication technologies” (Whitely 1998, p.1). There are generally five modes of E-Commerce which are, Business to Business (B2B), Business to Consumer (B2C), Consumer to Consumer (C2C), Business to Government,(B2G) and Business Process. E-commerce is not only limited to buying and selling over the Internet, but it is also concerned with transferring or exchanging products/services and/or information via computer networks, including the Internet, Extranet and Intranet (Turban *et al.* 2006). It includes activities such as servicing customers online, collaborating with business partners and exchanging business documents within an organization over the Internet or other private networks. Because of its broad coverage, E-commerce is often referred to as e-business (Barness and Hunt 2001). According to Gunrathe (1997), E-Commerce provides unique opportunities for developing countries to compete in the world economy.

### **E-Commerce Adoption Strategy**

Pearce II J. A *et al* (2009), note that “Strategic Management is an arm of management which ensures that an objective based responsive approach is defined as a set of decisions and actions that result in the formulation and implementation of plans designed to achieve a company or organization’s long and short term objectives”. Strategic planning therefore relates to the process whereby organizations, including SMEs, lay out their expected projections into the future and then effectively utilize available resources in order to facilitate growth, develop new products, increase productivity or adopt new technology. From a study carried out on E-commerce adoption by SMEs in the Tourism sector in Kenya ,Wanjau *et al* (2012) state that leaders among SMEs’ management were reported to be inclusive, risk taking, open to change, committed and able to communicate. The leadership also spent time shaping the vision and strategies for the adoption and use of electronic commerce and leveraging it into the business processes and activities. SMEs therefore deploy E-Commerce Strategic initiatives in response to environmental challenges in order to grow and remain relevant in a competitive business environment. The Resource Based View theory in explaining how a firm maintains a competitive advantage maintains that its resources must be valuable, inimitable, rare, non-tradable, non -

substitutable and firm specific (Barney 1999 cited by Finney et al. 2004, Makadok 2001). As a strategy therefore, E-commerce adoption can avail electronic systems and resources in the firm that can accord the firm the qualities described by this theory as rare, valuable, inimitable, and non-tradable, non-substitutable and firm specific. As a consequence the organization or SME can gain a sustained competitive advantage.

This study therefore seeks to analyze E-Commerce adoption influences which have a bearing on strategy analysis, formulation, support and guidance in the management of SMEs given their crucial role in contributing to Economic development. It is noteworthy that SMEs in Kenya provide 80% employment (Economic survey 2013) lending heavy credence to the view that the sector plays a Strategic role in the growth of Kenya's Economy.

### **Purpose of the Study**

The study aimed at determining the effects of technological resources in the adoption of e-commerce among SMEs. It is noted that SMES in Kenya create 85 percent employment yet it only contributes about 20 percent of the total GDP (African Economic Outlook, 2011). This alongside a gap in empirical knowledge formed the basis for this study given that Internet penetration in Kenya now stands at 53.3% while internet users increased to 21.6 million compared to 21.2million the previous quarter (Republic of Kenya, Quarterly Statistics Jan-March 2014), this is a phenomenon that cuts across all the Counties in Kenya.

### **LITERATURE REVIEW**

In Africa, the continents ICT markets are predominantly in West and East Africa and have seen a rapid surge in the development of E-Commerce' (Daily Nation 2015). According to columnist Sam Wambugu of the Daily Newspapers (2015) "...experts estimate that the market will be worth \$50 billion by 2018 compared to \$8 billion in 2013". Masiero (2013) in a study of M-Farm Ltd, states "...there is a small set of new, successful Kenyan startups in mobile farming. An example is M-Farm Ltd., a "software solution and agribusiness company" whose product concept is based on the necessity of providing relevant, ready-to-use information to farmers across the nation as a whole. Developed in 2009 and led by Jamila Abass, M-Farm has started its operations with the mission of empowering Kenyan farmers, whose problems include misbehavior of middlemen with respect to the price of produce, ineffective mechanisms for information on market prices, and the relatively high cost of farm inputs" The initiatives of Jamila Abass which were recognized by President Obama during the 2015 Global Entrepreneurship Summit, confirms that E-Commerce is a phenomenon that is now recognized as a strategic avenue to faster and effective business operations especially among SMEs. In

the case of Abass, M –Farm is an innovation used in Kenya which uses the internet to enable farmers know the reigning prices of agricultural produce to ensure that they are not tricked by middlemen. M-Farm has been in service since February 2011 and since then the module that is widely used as the price information service runs on 3535 (Kibor, 2015).

According to WTO (2002) the Internet is revolutionizing the distribution of tourism information and sales. An increasing proportion of Internet users are buying on-line and tourism will gain a larger share of the online commerce market (Wang, & Cheung, 2004). Obviously, the Internet is having a major impact as a source of information for tourism (Buhalis&Schertler, 1999). This finding is true to tour firms but remains subject to confirmation by the findings of the present study.

Electronic commerce has transformed SMEs sectors, notably; the travel and finance sectors which have relatively managed to develop successful stand-alone, online initiatives and integrated electronic commerce applications into traditional business processes (Bernadas & Verville, 2005). The study in reference relates to SMEs in the travel and finance sector and undoubtedly the position holds true only in reference to the sectors mentioned and not other SME sectors upon which this study hinge upon.

While discussing strategy among SMEs in Netherlands, Gulobova (2012 ) notes that it is interesting to discuss whether SMEs and start-ups should engage in formal or informal planning. Chau (2003) noted that the strategic use of e-commerce by SMEs may be explicit in some cases but frequently it is implicitly implied. The choice for a strategic approach also depends on the industry in which the firm operates. For instance, the study of Mohr *et al.* (1996) showed that strategy formulation might be different in a high-tech environment. In contrast to the neat, orderly process of strategy formation and execution implied by the formal planning approach, rapidly changing customer expectations, competitor actions, and technologies, such as those found in the high-tech environment, do not allow for such a rational process. Often referred to as an emergent planning process, the strategy is improvised or emerges from lower levels of organizations – whether through trial-and-error learning or incrementally with guidance from the top. In the present study, it is the researcher's argument that E-commerce deployment is influenced by "resources" as supported by the Resource Based View theory and it plays a key role in growth and competitive strategy by SMEs.

Concerning growth strategy, a firm should be able to identify its attitude towards e-commerce growth (Gulobova, 2012). An interesting distinction of e-commerce growth potential strategies is given by Jeffcoate (2002, p. 126) "SMEs may be divided into two main groups on the basis of their attitude towards growth: growth oriented and quality of life. The primary purpose of growth-oriented companies is to grow and create the most valuable company they

can. In contrast, quality of life appeals to companies whose primary purpose is to provide an income for the owners". 'Owners wealth objective' or the "quality objective" could be true for the current study although no studies have been carried out to confirm this in Kenya.

On E-Commerce strategy, Golubova (2012) expounds on Ansoff's strategy; "The strategic intent in SMEs may be usefully understood using Ansoff's framework on product/market expansion. Ansoff's framework has been used by Levy (2005) to consider the strategic intent and to map strategic growth intention of SMEs. This framework identifies four strategies for growing businesses. Market penetration is continuing to sell current products into current markets. Market development is selling current products into new markets. Product development is selling new products into current markets. Diversification is selling new products into new markets. The use of Ansoff's model in its entirety by SMEs especially in Kericho County, (in this study) cannot be over-ruled since they are dealers and distributors of different products on behalf of different manufacturers.

While discussing the benefits of E-Commerce, Adelaar (2004) mentioned that e-commerce can be used as a tool to offer added value to existing customers, which helps retain and intensify the relationship with these existing customers. New customers need to be made aware of a firm and its offerings, and will not have as much familiarity with the brand, resulting in higher costs to establish a sale. E-commerce strategies designed to move into unserved markets are considered complicated and costly, due to the necessary scalability of fulfillment processes and a need for in-depth market knowledge. In this study, an attempt will be made to determine the linkage between pressure from manufacturing firms and customers influence on the use of Ecommerce among the target population of SMEs.

In the present study, Enterprise Resources is an aspect which, depending on the findings, will most likely determine the adoption of e-commerce strategies. According to Ajmal F *et al* (2012) "The same goes for enterprise resources as a small business tend to believe they do not have enough resources to support the e-commerce implementation in the company. Enterprise resources consist of human, financial and technology (computer, telephone lines, cable, etc) .On the aspect of cost of acquisition of the hard and software required, Ajmal *et al* (2012) reiterate that the organization sometimes feels that it will be irrelevant for business and will cost too much to implement and the cost will increase with time to maintain the system. The current study holds a divergent view to this when it relates to the affordability and purchase of mobile phones in Kenya for use in MPESA funds receiving and transfer. This is because the costs of mobile handsets may not be as prohibitive due to the availability of handsets at low prices.

Irefin *et al* (2012), in a study among Nigerian SMES uphold that the availability of ICT infrastructure is an important factor which inhibits the adoption of ICT by SMEs. If there is adequate ICT infrastructure in the country, it will be very easy for SMEs to adopt it rather than running away from it. Kapurubandara *et al* (2006), found that the availability of internet facilities and telecommunication services are some of the factors affecting the adoption of ICT by SMEs in a developing economy. Fatma Ajmal *et al* (2012) while studying Electronic Commerce Adoption Model for Small & Medium Sized Enterprises in Singapore asserts that technological components involve various internet technologies such as COBRA, software agents, mobile agents; and mark-up languages such as HTML, XML, HTML and programming language like java, ASP; and web development tools such as dream viewer, Photoshop and multimedia, etc. Network technology as a lower level includes TCP/IP that is a protocol used to create and transfer information packets across the internet; HTTP is set of rules for transferring files over the internet; and POP, SMTP, IMAP manages emails and network management issues like quality of service (QOS). Support systems include decisions support systems and distributed application and algorithm/methodology that assist, enhance or improve E-Commerce applications. Irefin *et al* (2012) cites government support as one of the factors militating against the adoption of ICT by SMEs in Nigeria. It is widely believed that ICT adoption and utilization is predicated on availability of physical infrastructure, legal and regulatory issues, adequate research and development, and proper policy. All these can be put in place only when there is adequate support from the government.

Hassen Y. A., (2012) found that corporations seem to engage their businesses with high tech ICT equipments and sophisticated systems run by their highly qualified employees. While small enterprises usually adopt only a small portion of technology's vast potentials, some also do business solely on the internet. Among other reasons that determine the extent of ICT usage is the impact of complex interactions that exists in many small firms such as with family, friends, other businesses and e-business solution providers (Parker & Castleman 2007, p. 22).

## **METHODOLOGY**

This study was carried out in Kericho County in Kenya. Given that the SMEs are in different areas within the Kericho County headquarters, the sampling method used was stratified random sampling. A sample of 323 SMEs was identified which comprised of those conforming to the provisions of MSE Act's (2012) definition of SMEs in Kenya and those licensed by the County Government. The study used personal interviews using structured and unstructured questionnaires to collect primary data. Questionnaires were constructed covering basics of the

SMEs like annual turnover, number of employees, age and work duration of the managers and information on the variables under study.

Data collected was checked for completeness and consistency and thereafter coded and grouped into specific themes. Data processing and analysis was done using SPSS (Statistical Package for Social Sciences) analysis software where descriptive and inferential statistics were computed and presented mainly using tables and followed by the requisite explanations.

## EMPIRICAL RESULTS AND DISCUSSIONS

Results are presented using descriptive and inferential statistics. The population of the study comprised of SMEs in Agribusiness, Education, Wholesale trade and retail, Transport and Health in Kericho - Kenya.

### Effects of Technological Resources on the Level of Adoption of Ecommerce

In Table 1, the extent to which E-commerce is affected by technological resources is shown. The responses revealed that E-commerce is affected by technological resources to a great extent (58.5%). This concurs with a study conducted by Shemi *et al* (2012) on factors affecting e-commerce adoption in small and medium enterprises in Botswana. The Networked Readiness Index (NRI) is defined as a nation's or community's degree of preparation to participate in and benefit from ICT developments (WEF, 2003). Based on the global networked readiness rankings (GITR, 2012), Kenya's ranking is 92 out of 144 according to the Networked readiness index 2014. In as far as this study is concerned therefore the results drawn are assessed against this position. Kenya's rating is at over 63%. Further, this agrees with Letangule and Letting (2012) who established that at 5% level of significance and 95% level of confidence, technology innovation strategies had a 0.003 level of significance; the highest among product innovation strategies, process innovation strategies and market innovations. This confirms the findings of the present study.

Table 1 Effect Technological Resources

	Frequency	Percent	Valid Percent	Cumulative Percent
Very great extent	62	27.1	27.1	27.1
Great extent	72	31.4	31.4	58.5
Moderate extent	56	24.5	24.5	83.0
Low extent	27	11.8	11.8	94.8
No extent	12	5.2	5.2	100.0
Total	229	100.0	100.0	

In Table 2, the responses based on how the availability of ICT infrastructure and hardware influences the introduction of E-commerce are shown. A cumulative percentage of 62.9 of the respondents feel that this influences the introduction of E-commerce in their enterprises to very great extent. ICT infrastructure which includes computers, phones & ipads forms the components on which E-commerce projects are operated and this justifies this response. Irefin *et al* (2012) in a study among Nigerian SMES hold that the availability of ICT infrastructure is an important factor that inhibits the adoption of ICT by SMEs. If there is adequate ICT infrastructure in the country, it will be easier for SMEs to adopt it rather than shun away from it. Kapurubandara *et al* (2006), in their study found that the availability of internet facilities, telecommunication services are some of the factors affecting the adoption of ICT by SMEs in a developing economy.

Table 2: Effect of availability of ICT Infrastructure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very great extent	76	33.2	33.2	33.2
	Great extent	68	29.7	29.7	62.9
	Moderate extent	46	20.1	20.1	83.0
	Low extent	16	7.0	7.0	90.0
	No extent	22	9.6	9.6	99.6
	Total	229	100.0	100.0	100.0

Table 3 shows how the cost of E-commerce facilities including internet, computers, phones & Cybercafé charges influence the introduction of E-commerce in the SMEs under study. The responses reveal that the cost element influences the introduction of E-commerce to a very great extent of about 26.2%. Considering the effects that the financial strength and capability of these SMEs have on the adoption of E-commerce as shown in Table 8.4 the cost factor of the E-commerce facilities becomes essential in influencing its adoption.

Table 3: Effect of the Cost of E-commerce facilities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very great extent	60	26.2	26.2	26.2
	Great extent	53	23.1	23.1	49.3
	Moderate extent	52	22.7	22.7	72.1
	Low extent	36	15.7	15.7	87.8
	No extent	28	12.2	12.2	100.0
	Total	229	100.0	100.0	

Table 4 shows the extent to which the pressure for globalization and internationalization have on the introduction of E-commerce in the enterprises. The respondents felt that this urge for globalization and internalization has a moderate effect on E-commerce adoption. Peixin Li *et al* (2012) in a study on globalization/internationalization and ecommerce, maintain that firms facing foreign competition are under greater pressure to adopt e-commerce, expand market share and operate more efficiently. In consonance, Kraemer *et al* (2002), Jaw and Chen (2006) and Gregory *et al.* (2007) all found a positive relationship between globalization and e-commerce adoption. In the present study, though positive the correlation is weak possibly owing to the technological nature of internet and e-commerce.

Table 4: Effect of Pressure to Communicate and buy or sell from other Countries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very great extent	55	24.0	24.0	24.0
	Great extent	53	23.1	23.1	47.2
	Moderate extent	57	24.9	24.9	72.1
	Low extent	33	14.4	14.4	86.5
	No extent	31	13.5	13.5	100.0
	Total	229	100.0	100.0	

In Table 5, a cumulative percentage of 49.8 shows that the expected benefits of E-commerce influence the introduction of E-commerce to great extent. Also 15.3% of the respondents feel that this has no influence in the introduction of E-commerce in their enterprises. These findings close ranks with the Transporter Model Theory by Levy & Powell (2002) .The authors discuss their findings stating that firms are usually cautious in adopting the internet and some owners do see its values for their growth but need to know the actual obtainable benefits than merely perceived ones before they put their investment in it. The combination in the different levels of these two drivers results in the four groups of segments in internet adoption patterns; namely brochure ware, business opportunity, business network and business support.

Table 5: Effect of Expected Benefits of E-commerce

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very great extent	53	23.1	23.1	23.1
	Great extent	61	26.6	26.6	49.8
	Moderate extent	43	18.8	18.8	68.6
	Low extent	37	16.2	16.2	84.7
	No extent	35	15.3	15.3	100.0
	Total	229	100.0	100.0	

### Chi-Square Statistic -Technological factors

A Chi-Square test determines the level of significance and therefore it is incumbent upon researchers to compute the relationship of the variables with a view to taking a position regarding a previously stated null hypothesis.

In this regard statistical evidence point to a significance which falls within  $p < 0.05$  in most constructs apart from pressure from globalization and internationalization (pressure to communicate and buy or sell from other countries). It is therefore appropriate to reject the null hypothesis that, technological resources have no statistically significant effect on the level of adoption of E-Commerce by SMEs in Kenya since the opposite is true based on the empirical findings.

Table 6: Chi-Square Statistic -Technological factors

	Technologic al Resources	Availability of ICT infrastructure and hardware (Computers, phones, cybercafés).	Cost of E- commerce facilities (internet, computers, phones, cybercafé charges)	Pressure to communicate and buy or sell from other countries	Expected benefits of E- commerce
Chi-Square	55.651a	118.345c	15.389a	14.079a	10.585a
Df	4	5	4	4	4
Asymp. Sig.	.000	.000	.004	.007	.032
Sig.	.000b	.000b	.000b	.009b	.052b
Lower Bound	.000	.000	.000	.000	.024
Upper Bound	.013	.013	.013	.021	.081
Upper Bound	.013	.013	.013	.021	.081

### One-Sample Kolmogorov-Smirnov (K-S) Test: Technological factors

Based on a computation of all the five constructs which make up the Technological factors variable a K-S test was carried out and the results reveal that at a confidence level of 95% and a significance of  $p < 0.05$  there is a 0.00 significance on Technological factors. It is statistically sound therefore to disapprove the null hypothesis regarding Technological factors. This finding is in agreement with other tests done using other techniques.

Table 7: One Sample KS test-Technological Resources

	Technological Resources	Availability of ICT infrastructure and hardware.	Cost of e-commerce facilities	Pressure to communicate and buy or sell from other countries	Expected benefits of E-commerce
	229	229	229	229	229
Mean	1.3668	1.3886	1.6463	1.7031	1.7380
Std. Deviation	1.15316	1.86191	1.34482	1.34067	1.38012
Absolute	.210	.228	.178	.172	.201
Positive	.210	.211	.178	.172	.201
Negative	-.123	-.228	-.122	-.116	-.134
	3.177	3.449	2.694	2.597	3.048
	.000	.000	.000	.000	.000
Sig.	.000 <sup>c</sup>	.000 <sup>c</sup>	.000 <sup>c</sup>	.000 <sup>c</sup>	.000 <sup>c</sup>
95% Confidence Interval	Lower Bound	.000	.000	.000	.000
	Upper Bound	.013	.013	.013	.013

## CONCLUSION

### Technological factors and Level of E-Commerce adoption

Based on the objective to find out the effects of Technological Resources on the levels of adoption of E-Commerce strategies, ICT hardware and software influences were found to affect E-Commerce adoption to a very great extent while Training in E-Commerce and ICT was found to contribute to the introduction of E-Commerce in the SMEs. This activity however as seen in the findings is rarely carried out among the SMEs. The levels of ICT knowledge among employees have a significant influence on the adoption of E-commerce in the Enterprises studied. This is in line with the finding that the majorities of the employees in these SMEs are the youth aged between 18-35 years and hence are more likely to possess better skills and knowledge in ICT as compared to the older SME owners and Managers. According to the study, and especially based on the factor analysis carried out, the influence of ICT knowledge among employees in relation to the qualifications held is significant; the significance declining from graduate, diploma and certificate level respectively. This leads to a conclusion that the higher the level of education attained, the greater is the influence of ICT knowledge in E-commerce adoption in the enterprises under study. Experience in ICT usage was proved to have a significant influence on E-Commerce adoption. Experience of five years and above in ICT usage has the greatest influence in adopting E-Commerce as concluded by the study. The

respondents noted that E-Commerce improves business and makes work easier in terms of marketing because the buyer is accessed at the right time. It reduces distance one has to cover to get to where the commodity is.

## **Policy and Practical Recommendations**

### ***Theory***

It is proposed that an assessment of the relevance of the Adoption Ladder Model for SMEs theory on E-Commerce adoption be studied further to strengthen or disagree with some or all of its positions. The Adoption Ladder Model was a key basis for the present study and its scrutiny could further contribute relevant knowledge and theory in this field.

### ***Policy***

The study recommends that policies should be formulated to promote training in the usage of E-Commerce among SMEs. This is so since E-Commerce improves communication, money transfer, competitiveness, productivity and growth among SMEs thus reducing the levels of unemployment, enhancing food security and generally improving the quality of life of the business owners and their employees.

### ***Practice***

Agencies both private and Government dealing with SME growth could help the SMEs in the development of E-Commerce through funding and provision of subsidies in the acquisition of mobile smart phones, Computer hardware and software (infrastructure support). The County and National Governments need to provide ICT centers and internet hotspots where SMEs can benefit from free or subsidized training and internet access. The Counties can integrate backwards and support the National Government's Computer training for primary schools programme to prepare future SME owners and employees to operate computers and participate earnestly in E-Commerce. SME owners should be assisted to source and recruit qualified staff with skills in ICT adequate enough to enable them engage seriously into the use of Electronic Commerce.

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