

Constraints Hindering Slow Up Take of E-Commerce among Small and Medium Enterprises in Uasin Gishu County

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Abstract: Small and Medium-sized Enterprises (SMEs) in Kenya contribute significantly to economic growth, social structure and employment as well as local and regional development. Consequently, they have become an important sector of the economy in the Uasin Gishu County. The objective of the study were; slow uptake of technology; slow uptake of IT knowledge; slow uptake of e-commerce environment and slow uptake of government policy. The research adopted descriptive study. The targeted respondents were the SME's in Uasin Gishu County. Arising from the study findings the researcher therefore recommends that the National government and the County government should enact legislation to regulate the ICT industry in the county with a few of reducing the cost of ICT applications. The management of formal SMEs should also ensure that their employees are trained on ICT aspects. The researcher recommends further research can be done on MSME in the county and other counties at large.

Keywords: Constraints, Uptake, SME'S.

1. INTRODUCTION

The two most powerful forces affecting the world economy and commerce today are the increasing rate of globalization and advances in information and communication technologies (ICTs). In recent years, the exponential growth in ICTs and the resulting rapid emergence of electronic commerce (E-Commerce) have drastically been reshaping the world of business. Much confusion, however, surrounds the definition of e-commerce; as reckoned by Ihlstrum et al (2003), the confusion stems from whether to define e-commerce as Internet based activities only or as any kind of business exchange on any type of network. On that matter, this study will adopt an all-purpose perspective with regard to e-commerce and attempt to derive the characterization of e-commerce from its two broad components; electronic and commerce.

Electronic is generally presumed to indicate a medium or platform that incorporates the use of Information Communication Technologies (ICTs). Commerce, on the other hand, is largely regarded as the study of how man organizes the distribution and exchange of commodities so as to satisfy his needs in the most efficient manner. Mukiibi (2001) opined that commerce was the chain that links the people who produce goods and services to those who want the same goods and services. Based on the description of the two components of e-commerce, a simple refinement and consolidation of key terms begets the definition of e-commerce that will be used in this study. E-commerce can hence be regarded as any economic or business activity that uses ICT based applications to enable the buying and selling of goods and services and to facilitate the transaction of business activities between and among businesses, individuals, governments or other organizations. E-commerce involves digitally enabled commercial transactions between and among organizations and individuals.

E-commerce intersects at the business firm boundary at the point where internal business systems link up with suppliers. These e-commerce activities include internet retailing (e-tailing), electronic data interchange (EDI), Internet banking, electronic settlements and browsing and selection of products and services over the net.

Once a firm decides to engage in e-commerce the implementation process starts. During this process it is important for the firm to identify the enablers and inhibitors of e-commerce implementation (Levy et al., 2005). The purpose is to make a strategic use of the enablers of e-commerce and to overcome the barriers of implementation. An example of an enabler of e-commerce success is the existence of a market and a critical mass for the product, and an inhibitor of e-commerce implementation can be the lack of internal IT systems.

Managers must be able to identify e-commerce applications that have a strategic and competitive potential for the firm, before committing valuable resources to possibly unsuccessful e-commerce implementation projects (Lewis & Cockrill, 2002). This means that the firm should have a clear vision of what exactly it wants to achieve with e-commerce – the objectives and perceived added value – be it capturing new markets or decreasing costs. The e-commerce implementation process must be aligned with the e-commerce objectives. Jiang and Yu (2009) said that the implementation of e-commerce is the process by which an organization seeks to achieve its e-commerce objectives.

E-commerce is a tool through which firms can attain competitive advantage. Therefore it is interesting to further explore how firms exactly go about implementing e-commerce systems, and which path firms take from e-commerce idea generation up to realization of e-commerce success. Moreover, e-commerce implementation should be studied in context. In particular, the small and medium-sized enterprise context is interesting because it constitutes a major part of the economy and has been relatively unsuccessful in exploiting e-business (Eikebrokk & Olsen, 2007). Also, large firms are more likely to adopt new technology than small firms due to economies of scale. Another context that is interesting to study is the industry context, because implementing e-commerce requires different competencies in different sectors of the economy. For instance Sadowski et al. (2002) mention that the adoption of e-business by SMEs is affected by industry characteristics and that SMEs in knowledge intensive industries have been more inclined to adopt Internet services and products. Moreover, firms in more information intensive industries and that operate globally are more likely to have the need for e-commerce (Gibbs et al., 2002).

Small and Medium Enterprises:

Given the variation of different, sectors, economy and turnover, a single definition is not applicable easily (Vilaseca, 2013). Sessional Paper No. 2 of 2005 expounds an SME as a business which employs between 1 to 50 employees, the World Bank states that an SME is one that falls under one of five of the criteria which says: (1) A formally registered enterprise

(2) With an annual yield of between Kenya Shillings 8 to 100 million (3) an asset base of at least Kenya Shillings 4 million and (5) hiring between 5 to 150 employees. The MSME Bill (2011) uses the criteria to explain SMEs that is: (a) the number of hired labour and (b) the organization's annual yield. For operations in the manufacturing industry, the explanation covers the investment in plant and equipment including the registered capital. They are categorized as: Food, Beverage and Tobacco, Books and Stationery, Energy, Electrical and Electronics, Plastics and Rubber and Pharmaceutical and Medical Equipment.

There are about 90% of SMEs that contribute over 50% of employment worldwide, (Katua, 2014). SMEs are instrumental to economic development by merit of their absolute numbers and rising contribution to employment and Gross Domestic Product (GDP). SMEs form a core pillar of economic activity in Kenya and contribute close to 45% of the GDP which is about 85% of the Kenyan workforce (SME FEST). SMEs are the fastest growing business segment in the economy and employ the most people (50% or 11 million).

SMEs encounter a lot of challenges that considerably hamper their growth and development. They take on the distinctive complications of evolution, riskiness and innovation. The major crucial complications are those of "limited market access, limited access to information, finances and technology and unfavourable policy and regulatory environment among others" (Republic of Kenya, 2010).

In this study, SMEs cut across the whole of Uasin Gishu County's economy. They are categorized into various sectors as follows; Agriculture and agricultural services, forestry and logging, construction and quarrying, manufacture, repair and installation, wholesale and retail trade; transport; accommodation; food and beverages service; information, communication and technology and agency businesses; institutions of learning; beauty services and health services. These

enterprises are located in different places in the county and operated by owners or employees or both. Their main sources of capital are proceeds from disposal of assets, individual's savings, and loans from relatives, friends and informal associations commonly referred to as *chamas*. These main sources are Unsecure, often inadequate and unreliable. According to GoK₁ (2013), Uasin Gishu County geographical area is 3,327Km² with about 894,179 people. Its six constituencies are Turbo, Soy, Moiben, Ainabkoi, Kesses and Kapseret. Of the 3,327Km² land cover, 2,995Km² is arable while 23.4Km² is land under water and the remainder is not arable. Uasin Gishu County borders with the following counties, Elgeyo Marakwet to the East, Kericho to the South, Transzoia to the North, Kakamega to the North West, Nandi to the South West and Baringo to the South East.

Statement of the Problem:

The need for survival and competitiveness has pushed SMES to find ways to improve their performance in developing countries (Payne, 2007). When looking at inhibitors to e-commerce in SMEs, the ignorance about e-commerce benefits inhibits its adoption. Researchers agree with this position on e-commerce and the competitiveness of small and micro enterprises in Kenya stating that, knowledge and awareness about the benefits of e-commerce motivates small businesses to adopt increasingly ecommerce solutions (Castleman & Chin, 2002). Various changes which have occurred in many countries including Kenya are due to the rapid developments in ICT especially the Internet (Looi, 2005).

The adoption of e-commerce by businesses is an important economic indicator of growth due to the perceived potential of the Internet in reducing transaction cost. However, the adoption of ecommerce in developing countries has fallen below expectations. For instance, it was established that 62% and 82% of small and medium enterprises respectively utilized e-mail while 14% of small enterprises and 37% of medium enterprises had website connections (Kashorda, 2009). The study went on to conclude that the low uptake of e-commerce in Kenya may not be directly related to laws but limited to internal readiness and use of ICT.

The application of theory to the understanding of SME e-commerce environments is still lacking especially in developing countries. According to (Castleman, 2009) the theory that explains ecommerce adoption in SMEs must embrace the assorted nature of SMEs and also understanding both the internal and external factors that inhibit the adoption of e-commerce. To address this gap, the study aims to advance the understanding of slow uptake of e-commerce on SME's, to bring to light the issues that can explain e-commerce constraints hindering by SMEs IN Uasin Gishu County.

2. LITERATURE REVIEW

Technology Acceptance Model:

Technology acceptance model (TAM) was originally proposed by Davies in 1986. This model was designed to forecast the user's acceptance of information technology and usage in an organizational setting. Cracknell (2004) posits that firms are adopting technology to cope with the dynamics of the external environment. This model has been tailored in a manner that can accommodate changes for improved costs reduction and efficiency Technology Acceptance Model deals with perceptions as opposed to real usage, the model suggest that users , the key factors that influence their decision on how, where and when they will use it (Davis, 1989).

The factors to consider are: Perceived usefulness (PU). According to Davis, it is the degree to which a person believes that using a particular system will lead to improved performance (Britton and McGonegal, 2007). Perceived ease-of-use (PEoU) is explained as the degree to which a person believes that using a particular system would results to improved productivity. The TAM was proposed by Davis et al. (1989), this model expounds on the attitude behind the objective to use technology or a services. This theory is relevant to this study since it explains user's acceptance of information technology and usage in an organizational context.

Acceptance is the first process in technology use and has a bipolar implication. First of all acceptance is a precursor to adoption and hence this theory complements the preceding theories. Secondly, acceptance dictates the attitude and perception of the users which eventually affects efficiency of use and hence performance. Strategic adoption as well as operational efficiency and hence productivity of systems are a function of acceptance of the technology. It is thus plausible to conclude that without acceptance, the rest of the theories would be redundant and invalid. Though acceptance is an initial phase, it is also an attitude shaping facet that influences adoption and effectiveness of use.

Schumpeter Theory of Innovation:

Schumpeter (1934) argued that entrepreneurs, who could be independent inventors or R& D engineers in large corporations, created the opportunity for new profits with their innovations. In turn, groups of imitators attracted by super-profits would start a wave of investment that would erode the profit margin for the innovation. However, before the economy could equilibrate a new innovation or set of innovations, conceptualized by Schumpeter (1934) as Kondratiev cycles, would emerge to begin the business cycle over again.

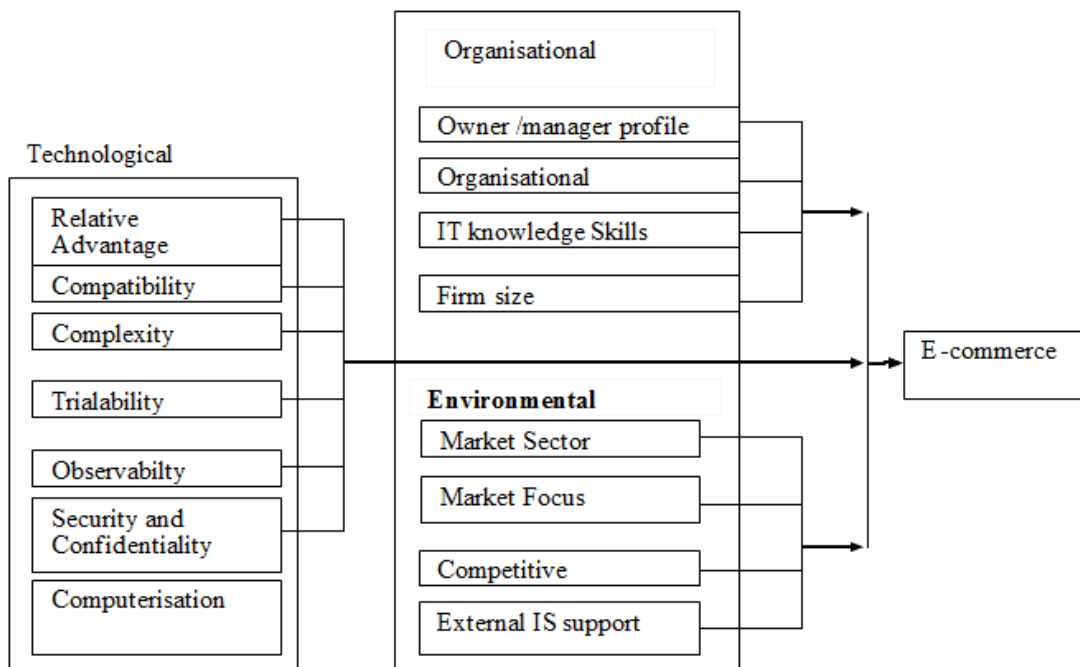
Schumpeter (1934) emphasized the role of entrepreneurship and the seeking out of opportunities for novel value generating activities which would expand and transform the circular flow of income, but it did so with reference to a distinction between invention or discovery on the one hand and innovation, commercialization and entrepreneurship on the other. This separation of invention and innovation marked out the typical nineteenth century institutional model of innovation, in which independent inventors typically fed discoveries as potential inputs to entrepreneurial firms.

The author further saw innovations as perpetualgales of creative destruction that were essential forces driving growth rates in a capitalist system. Schumpeter’s thinking evolved over his lifetime to the extent that some scholars have differentiated his early thinking where innovation was largely dependent on exceptional individuals/entrepreneurs willing to take on exceptional hazards as an act of will.

Integrated Diffusion of Integrated Diffusion of Innovation Theory and Technology Acceptance Model:

The Technology Acceptance Model (TAM) and the Diffusion of Innovation Theory (DIT) share some constructs and complement each other in examining the adoption of IT and related technology. Researchers indicate that the constructs employed in TAM are fundamentally a subset of perceived innovation characteristics; thus, the integration of the two theories could provide an even stronger model than either theory alone (Wu & Wang).

2005). Some studies that integrated the two theories produced good results (Chen & Sherrell, 2000) and after reviewing the literature on technology acceptance, the authors synthesized the major theories and empirical research then proposed a model that blends the key constructs involved in innovation acceptance. The five constructs of innovation characteristics, perceived ease of use, usefulness, and intention to adopt e-commerce were taken from the TAM and DIT.



Source: Chen and Sherrell (2000)

Figure 1 shows the context for e-commerce adoption studies.

Regarding the organisational context, Ramdani and Kawalek (2008) observe that factors such as support by top management, organisational readiness, experience with information systems, and firm size are critical to e-commerce adoption decisions.

The two authors further contend that owner/manager profile is the most significant factor affecting e-commerce adoption. On ICT capacity, they found that firms without much experience may find it difficult to appreciate the value of adopting new technologies or may not want to take the risk of adoption. Their rationale is that the incremental cost and knowledge required to adopt the Internet, for example, will be much smaller if a firm already owns a computer and a telephone. On the other hand, perceived set up and ongoing costs, technical difficulties, and innovation complexity are likely to make innovations unattractive thus adversely affecting their adoption. In addition, the greater the IS expertise available in the organisation, the more likely that IS will be adopted by MSMEs (Kapurubandara & Lawson, 2008).

Conceptual Framework conceptual framework is defined as an analytical tool with several variations and contexts and used to make conceptual distinctions and organize ideas (Serakan, 2003).

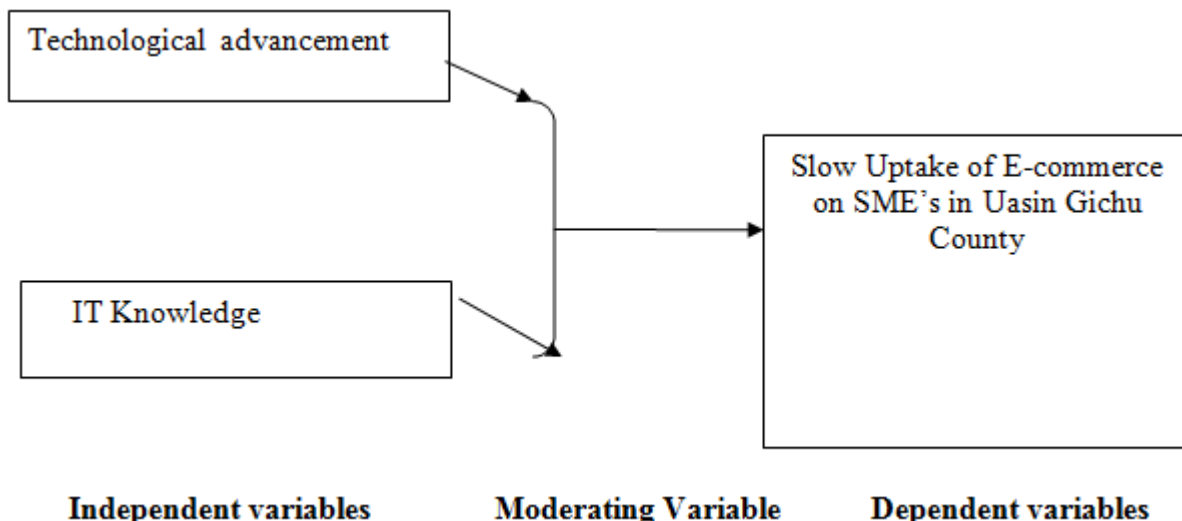


Figure 2

Research Gaps:

This chapter gives the in-depth literature analysis of various constraints hindering slow uptake of e-commerce on SME's. Despite a number of previous studies that have investigated slow uptake of E.-commerce, none has being carried on specific to Uasin Gichu County. To the best my knowledge of the researcher, This research therefore sought to fill the knowledge gap by investigating constraints hindering slow uptake of e-commerce on SME's in Uasin Gichu County.

Target Population:

The study population is the full set of cases from which a sample is taken (Mugend& Mugenda, 2003).An element is the subject on which the measurement is being taken and is the unit of the study as this study will target SMEs operating their business in Uasin Gishu County. The Study adopted descriptive cluster sampling. All the350 SMEs registered business in Bomet county Government. 31st Dec 2016 accordingly to the nature of their business.

Table 1

SNO	Category	Population
1	Retailers	40
2	Cottage Industries	20
3	Distributors	25
4	Transporters	25
5	Bakeries	10
6	Saloon Shops	10
7	Whole sellers	25
8	Electronics Shops	15
9	Chemist Shops	15
Totals		185

3. DATA ANALYSIS AND INTERPRETATION

Respondent Position:

Respondents were required to indicate their position in the organization. Majority (43.6%) of the respondents in this study indicated that they were managers only and then followed by those who were both managers and owners at 34.6%. The remaining 21.8% of the respondents were owners only. The research findings therefore reveal that majority of the respondents were in relevant positions in their organizations and as such could articulate the issues under study.

Gender of Respondents:

Respondents were further required to indicate their gender. 70.5% of the respondents were male and the remaining 29.5% of them were female. This implies that majority of the SMEs in Uasin Gishu are owned and managed by men.

Age Distribution:

Majority (55%) of the respondents in this research were aged between 22-30 years of age hence a youthful generation who easily appreciate use of technology. The findings are as shown in Figure below.

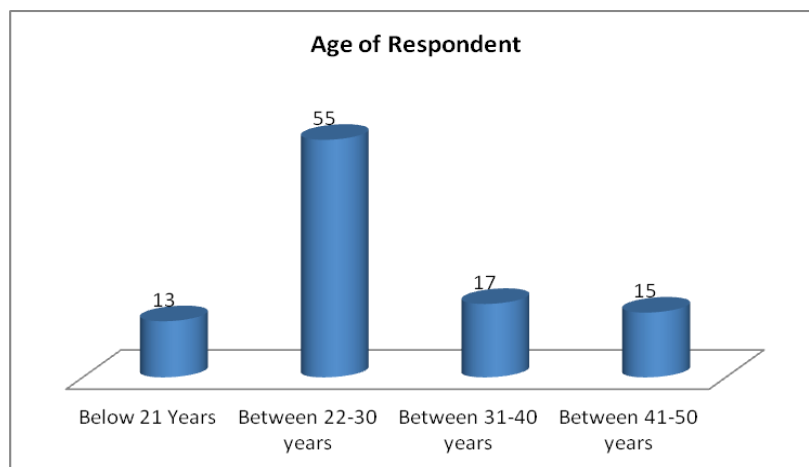


Figure 3 Age of Respondent

Level of Education and Management Qualification:

Respondents were further required to indicate the highest level of education they had attained. 57% of them had attained college level of education. Another 21% of them indicated that they had attained university education. A significant 19% of them had attained secondary education and the remaining 3% of them had attained postgraduate qualifications. The findings are as shown in Figure 4.2. Further, 38% of the respondent indicated that they had attended management training and the remaining 62% of them indicated otherwise as shown in Figure below

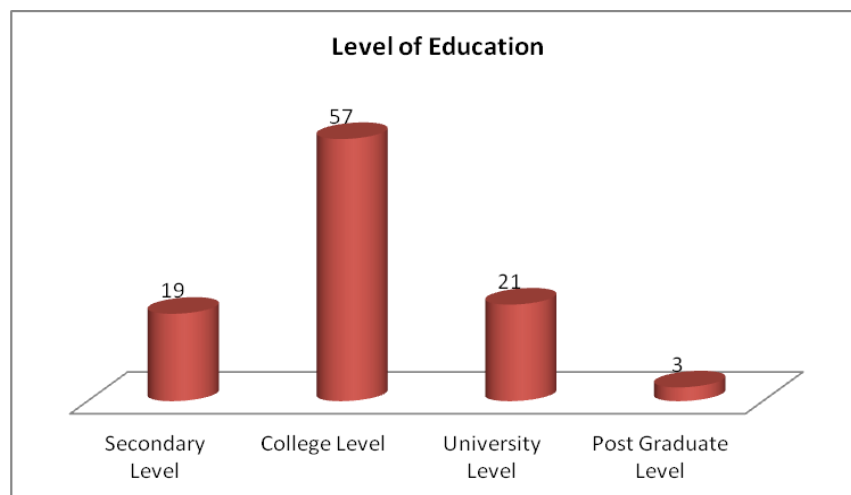


Figure 4 Level of Education



Figure 5 Management Training Qualifications

Number of Years in Business:

The number of years in the business was used to indicate how experienced the respondents were in the business, the level of usage of e-commerce and the factors influencing the adoption of ecommerce. Majority (74%) of the respondents indicated that they had been in business for a period of between 0-3 years as shown in Figure below

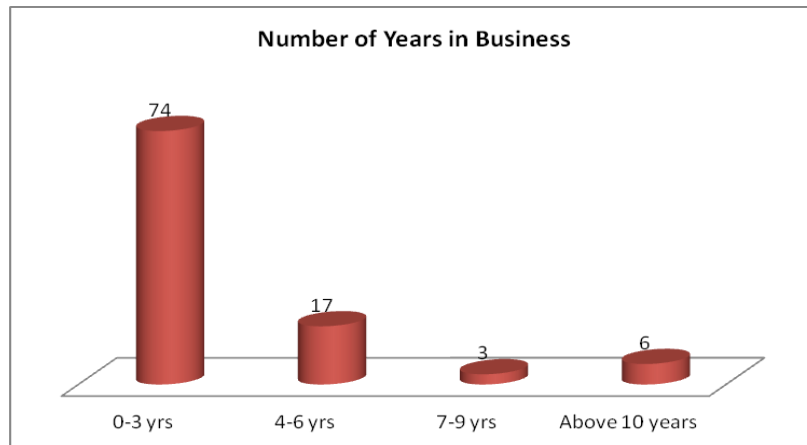


Figure 7 Number of Years in Business

Form of Enterprise:

Majority (55%) of the respondents indicated that their businesses were sole proprietorships, 23% of them were private limited companies, 21% of them were partnerships and 1% of them were public limited companies. The findings are as shown in Figure below.

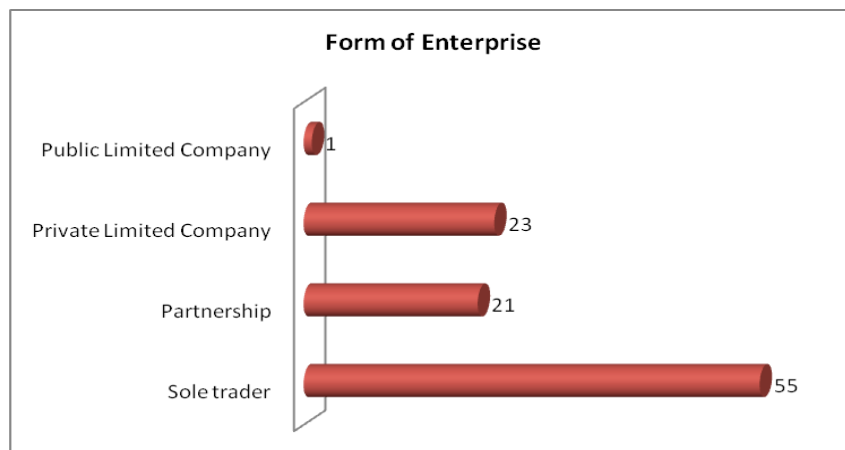


Figure 8 Form of Enterprise

Use of E-commerce, Internet and other IT tools:

Respondents were further required to indicate whether they used e-commerce applications in their businesses. 74 % of them indicated that they used IT and e-commerce in their businesses and the as shown in Figure below.

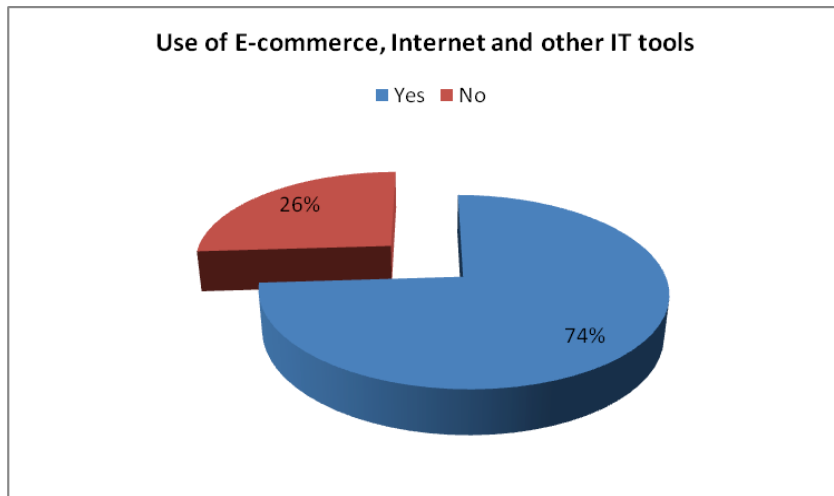


Figure 9 Use of E-Commerce

Use of ICT and Internet by SMEs:

Respondents were required to indicate the frequency at which they applied various forms of Ecommerce based on a Likert Scale of 1 to 5, where 1- Do not use at all and 5 – Very frequently. Means of between 3.3774 – 4.3396 and standard deviations of between 0.07687 - 0.95888 were registered. The study findings therefore reveal that majority of the respondents were of the opinion that they frequently used E-Commerce applications to communicate with customers, suppliers and employees; to set-up customer/suppliers databases and to receive orders to a great extent. On the other hand majority of the respondents indicated that they occasionally used E-Commerce applications to pay suppliers; to track and enquire about orders via email and to place orders to a small extent. The findings are presented below.

Table 2 Purpose of E-Commerce Applications

	Mean	Std. Deviation
To communicate with customers, suppliers and employees	4.3396	.61842
To perform financial accounting	3.7925	.09822
To manage payroll	3.7547	.95888
To perform market/product research	3.8302	.89305
To carry out business banking	4.0189	.77187
To setup customer/supplier databases	4.3208	.64371
To locate suppliers	4.0755	.72983
To place and track orders via email	3.7358	.07687
To pay suppliers	3.3774	.14735
To receive orders	4.2830	.66151
To place orders	3.6981	.15334
To track and enquire about orders by customers via email	3.5849	.94937
To promote products or services	3.7358	.90194
To search for information	4.0377	.89791
Overall Mean	3.8989	

Factors Influencing Adoption of E-Commerce:

Awareness of Benefits of E-Commerce:

Respondents were required to indicate their level of agreement to various aspects on awareness of benefits of E-Commerce based on a Likert Scale of 1 to 5, where 1- Not at all and 5 – T o a very great extent. Means of between 3.6226 – 4.3585 and standard deviations of between 0.10842 - 0. 96001 were registered. The study findings therefore reveal that majority of the respondents were aware that application of E-Commerce in their businesses could reduce business costs, lead to customer reference and increased business efficiency to a great extent. On the other hand majority of the respondents were aware that application of E-Commerce led to improved overall customer satisfaction, increased number of customers and increased sales volume. The findings are as presented in Table below

Table 3 Awareness of E-Commerce

	Mean	Std. Deviation
Efficiency in the business will improve	4.0189	.72032
Business costs will improve	4.3585	.59142
Sales volumes will increase	3.9623	.96001
Number of news customers will increase	3.6604	.10842
Overall customer satisfaction will be improved	3.6226	.92459
Customers will encourage other customers to get their products from us	4.1321	.70813
Overall Mean	3.9591	

Cost of E-Commerce:

Respondents were required to indicate their level of agreement to various aspects on costs of ECommerce based on a Likert Scale of 1 to 5, where 1- Not at all and 5 – T o a very great extent. Means of between 2.2075 – 4.3774 and standard deviations of between 0.01083- 0. 85273 were registered. Majority of the respondents were categorical that it was very expensive for their businesses to have their own websites to a great extent. Further, they indicated that computer maintenance costs were too high. On the other hand they were moderate that subscription to internet was affordable for their business. The findings are as presented in Table below

Table 4 Cost of E-Commerce

	Mean	Std. Deviation
Use of e-commerce is affordable in our business	2.7308	.65710
Subscription to the internet is affordable for our business	2.2075	.08057
Buying a computer software is affordable for our business	3.7547	.85273
It's very expensive for our business to have its own website	4.3774	.84286
Paying for computer support for our business is affordable	3.5472	.61160
Computer maintenance costs are too high	4.3077	.01083
Overall Mean	3.4875	

Technical Skills and IT Knowledge:

Respondents were required to indicate their level of agreement to various aspects on technical skills and IT knowledge of owners and staff based on a Likert Scale of 1 to 5, where 1- Not at all and 5 – T o a very great extent. Means of between 2.7170 – 4.1321and standard deviations of between 0.10284- 0.99162were registered. Majority of the respondents were categorical that they had knowledge on how to use Microsoft office and how to use internet. However, they were categorical that their employees did not know how to use internet and that they did not have knowledge on website maintenance. The findings are as presented in Table below

Table 5 Technical Knowledge and IT Skills

	Mean	Std. Deviation
I know how to use internet	4.1132	.84718
I have some training in information technology tools	3.4340	.97091
I know how to use Microsoft office	4.1321	.78539
I am knowledgeable in website maintenance	3.0943	.71425
I attend workshops to improve my computer skills regularly	3.5472	.99162
My employees know how to use internet	2.7170	.98795
My employees know how to use computer software and IT tools	4.0566	.79458
My employees are knowledgeable in website maintenance	3.4906	.10284
My employees regularly attend workshops to improve their computer skills	3.6792	.10547
Overall Mean	3.5849	

4. DISCUSSION OF FINDINGS

Four main factors were considered ranging from technical skills and knowledge of owners.

- ❖ The study findings revealed that over 88% of E-Commerce adoption by formal Micro and Small Enterprises in Uasin Gishu county is accounted for by employees regularly attending workshops to improve their computer skills. This is followed by trainings on awareness of information technology tools at 86.7%. Another 86.6% of e-commerce adoption is explained by affordable e-commerce.
- ❖ cost of e-commerce majority of the respondents were categorical that it was very expensive for their businesses to have their own websites to a great extent. They further indicated that computer maintenance costs were too high. Technical skills and IT knowledge of owners and staff is also critical in enhancing e-commerce adoption by formal SMEs in Uasin Gishu county.
- ❖ Majority of the respondents were categorical that they had knowledge on how to use Microsoft office and how to use internet. However, they were categorical that their employees did not know how to use internet and that they did not have knowledge on website maintenance this is in complements the findings of Erickson et al. (2008) who contends that an acceptable level of ICT and ecommerce knowledge by the manager/owner can assist the SME to adopt appropriate ecommerce activities in any enterprise (Looi, 2005). A high level of appreciation of ICT and ecommerce principles by the owner/manager will directly lead to increases appreciation for further e-commerce uptake in the business. In developed countries SMEs have better knowledge of ICT than those in developing countries.

5. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The Two main factors were considered ranging from technical skills and knowledge of owners and staff .The study findings revealed that over 88% of E-Commerce adoption by formal Micro and Small Enterprises in Uasin Gishu county is accounted for by employees regularly attending workshops to improve their computer skills. This is followed by trainings on awareness of information technology tools at 86.7%. Another 86.6% of e-commerce adoption is explained by affordable e-commerce.

In Conclusion:

Based on the study findings we can conclude that the constraints hindering slow uptake of e-commerce among small and medium enterprises in Uasin Gishu County significantly.

- ❖ Technical skills and IT knowledge of business owners and staff and awareness in the benefits of e-commerce were rated as the key factor explaining e-commerce adoption. The study findings therefore imply that business owners and their staff need to undergo training on Information Technology and its benefits so as to easily appreciate ICT application in business operations.

❖ Cost of e-commerce and other surrounding factors inhibiting adoption by SMEs to a small extent. This is attributable to the fact that the national and County governments has to greatly subsidized ICT cost that the SMEs can easily afford adopting e-commerce. This conclusion is supported by both the descriptive and inferential statistics as indicated.

Recommendations:

With due regard to the ever increasing desire to have high adoption of e-commerce by formal SMEs in Uasin Gishu, there is need to invest in various ICT strategies.

❖ This therefore calls upon the National Government and the county government and management of various SMEs to come up with an e-commerce policy which outlines the strategies and guidelines of applying the same effectively in the organizations in the County. This should be done in a manner in which all the stakeholders are happy.

❖ SME owners and their staff should undergo trainings and attend workshops on ICT so as to easily appreciate e-commerce application in their business operations. This will go a long in enhancing efficiency and effectiveness in service delivery.

❖ There is need to create awareness on benefits of e-commerce in business operations. This will lead to increased sales volumes, increased customer base, increased customer satisfaction and overall business efficiency. The government should enact policies which regulate the ICT industry aimed at reducing the cost of ICT usage so as to increase e-commerce adoption among SMEs.

Suggestions for Further Research:

Further research could therefore focus on all SMES in entire in other counties .A broad based study on the effect of e-commerce a and performance of ME'S organizations in the count of Uasin Gishu should also be carried out.

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