

# **COST-BENEFIT ANALYSIS OF SMALL AND MEDIUM ENTERPRISES ADOPTING E-COMMERCE IN BUNGOMA, KENYA**

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## **ABSTRACT**

*The study seeks the identification of factors that influence the cost-benefit analysis of adopting E-Commerce in Bungoma County, Kenya. The paper applies a cross-sectional survey as the research design to provide the best approach to the inquest. The target population are Small and medium enterprises with definite formal premises or structures at Bungoma County and comply with the Kenya Revenue Authority Regulations. The restriction serves as a basis to filter otherwise unstable and unrecognized ventures. The main source of data for the study was primary data collected through a structural questionnaire administered online. The questionnaire collects data from business Small and Medium Enterprise owners and managers allowing for further statistical analysis. The factor analysis statistical method was used in determining necessary combination of factors that were most attractive to Small and medium enterprises managers or owners. Descriptive and inferential statistics method was also used involving frequency tables, ratio, grouping, and mean score frequency tables that were used for formation of data obtained to ease working out percentages to label the intention of the study. The results show that Small and Medium Enterprises in Bungoma County Kenya are sole proprietorships and are mostly owned by the youth who have at least a secondary level of education. The uncovering further indicate that of the four factors accounted, skills and IT grasp levels of business owners, and staff accounted for the greater adoption of e-commerce by formal Small and medium enterprises in Bungoma County. A rising on the study findings, the researcher suggests that the government validate legislation to control the ICT industry in Kenya to minimize expenditure of ICT applications. The control of formal SMEs should also guarantee that their employees are well equipped on ICT details.*

**Keywords:** *E-commerce, Small and Medium Enterprises, Business technology, ICT industry*

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## INTRODUCTION

With the massive uptake on internet usage, the long-term interest and the promise of e-commerce remain intact and high. Businesses are now seeking to invest in establishing and advancing their internet-based infrastructure. Research shows that e-commerce provides numerous ways of creating better business opportunities. Some researchers have gone further to label e-commerce as the "equalizer". In this case, Small and Medium Enterprises benefit a lot from e-commerce. The internet has emerged as a practical marketplace as it equips not only easier and faster but also cheaper ways of interacting with clients and suppliers. Therefore, e-commerce has continued to help Small and medium enterprises improve customer service, heighten credibility, gather feedback, and facilitate business procedures. Conversely, adopting e-commerce carries substantial costs. In advanced countries like China, Small and medium enterprises constitute a highly dynamic and crucial sector of economic activities. On the other hand, the usage of smartphones and computers has continued to soar year after year. For instance, telecommunication users in China were more than 700 million by June 2017 which accounted for 96% of the total internet user population (Li & Wang 2018). Due to the continuous growth of telecommunication users which has brought economic benefits to many Small and medium enterprises in China. However, technology's ever-dynamic nature keeps attracting costs needs that to a reasonable extent strain rd (Sohn & Chung 2016). Many developed countries like Germany, Australia, UAE, USA, and Russia have continued to embrace e-commerce use. Research shows that Small and Medium Enterprises have learned the art of online transactions in different countries. Costs associated with ICT in these countries are well-balanced which promotes small and medium enterprises to adapt to the system. In the past years, small and medium enterprises that play a vital role in developing countries like Kenya have been relying on developed countries' ICT infrastructures instigating burdening costs. However, there has been a paradigm shift as developing countries have started to make sustainable ICT infrastructures. While several studies show how different countries have embraced e-commerce adoption, e-commerce as an important aspect of the business. From the background study, evidence indicates that the Small and Medium Enterprises e-commerce adoption sector is characterized by the cost of e-commerce software with its benefits. After the discussion on the roles of SMES, the study through the evaluation of the costs and benefits associated with the adoption of e-commerce, seek to validate the level of adoption of e-commerce by SMES. SMES may acknowledge the role of the approval of electronic trading systems and they are easily forgotten due to the cost of ICT implementation. As observed, cost-benefit analysis on Small and Medium Enterprises adopting e-commerce in Kenya is an aspect that should not be ignored because of its importance hence there was a need for a study to be carried on to establish how cost-benefit Analysis of Small and medium enterprises adopting affects e-commerce in Bungoma County Kenya because this area has been neglected for long.

## LITERATURE REVIEW

A wide range of literature discusses various aspects of cost-benefit analysis of SMEs adopting e-Commerce. This literature review, therefore, entails empirical findings on the concept of e-commerce worldwide, internationally, and locally as the basis for further speculative inquiry. This section allows an in-depth review of existing literature material and research findings concerning the decision made by SMEs in adopting the electronic commerce systems. It focuses on business efficiency and costs aspects as the guiding principles in the decision-making process by SMEs given their inherent nature to achieve suitability and profitability in the market space. On the gap analysis and the contributions from the literature reviewed, the study intends to determine the factors that facilitate or inhibit the utilization of Cost-Benefit Analysis of SMEs Adopting e-commerce in Bungoma County Kenya. The study sought to establish the level of awareness of cost-benefit analysis of SMEs adopting e-commerce and its potential benefits in SMEs and also establish the efficiency of e-commerce usage in business among the SMEs in Bungoma County, Kenya. The study will also determine whether SMEs in Bungoma County have a formalized policy on the use of ICT and its effectiveness in business. In addition to these, the study evaluated the importance of cost-benefit analysis of SMEs adopting e-Commerce as this area has a long-neglected in research and so far there is no documentation done and the other reviews had methodological problems and flaws in literature with different study designs, especially in Bungoma County. Previous research fails to adequately define the use of the determining factors in the adoption of e-commerce by business owners. Unadorned statement of factors affecting the adoption of electronic training does not achieve any significant development in the application of the findings. The study assumes a different perspective

relating to the decision-making process of business owners and their approach to the factors that affect the adoption of e-commerce

## **ADOPTION OF E-COMMERCE**

The modern world is known for its massive incorporation of IT infrastructure and systems. The modern-day definition of e-commerce supersedes its inherent structure as a simple means to the end for large corporations. Currently, e-commerce has become the new framework for business forcing investors and entrepreneurs to restructure their corporate organization and business models to respond to the new demands imposed by the market (Ferrera and Kessedjian, 2019). There is a shift where consumers demand more value comfort, reliability, and speed only possible through electronic trading. Electronic Business (e-commerce) is defined by Khan, (2016) as the buying and selling of goods and services over a computer network or even mobile phone network. E-commerce platforms have led to a simplified and effective consumer to business and the business to consumer processes, therefore perfectly augmenting the business processes (Samadi, Noguev and Yazdanifard, 2011). E-Commerce promotes an efficient and goal oriented evaluation for both the parties participating in the demand and supply sides. This is a result of wide range of avenues that it provides to both the sellers and the buyers. Okadapao, Omwenga, & Oboko (2016) argue that with the amplified use of the e-commerce, business platforms, particularly SMEs have received a big boost, thus ensuring that the SMEs survive. The role of SMEs in the growth of economies globally cannot be sidelined. A report by KNBS indicated that there are more than 17 million Small Scale Enterprises (SMEs) are registered in Kenya. Out of the registered SMEs, 98% of them account to a quarter of Kenya's GDP (KNBS, 2017). Half of the job opportunities have been created by the SMEs. This is the case with the rest of African economies. A lot of positivity has been witnessed in the growth of Kenya's GDP from 13% in 1993 to over 18% in 2003. Between the year 2011 to 2016 there was an average growth ranging between 21-25%. Additionally, the SMEs have accounted to over 85 percent job opportunities to the Kenyan citizens (World Bank, 2016). Despite the significance of the SMEs in the growth of economy, they are faced by serious challenges that eventually become a hindrance to their growth (Babu, 2017). Sadly, in the first three years of operation, only 30% of these businesses succeed. The use of the electronically enabled systems by the Kenyan SMEs has led to amplified growth by increasing the number of goods and services sold. Through the use of e-commerce platforms such as the Jumia, OLX, Amazon, Jiji or Baze, Kenyan SMEs can bring their services and products closer to the prospecting buyers. Babu, (2017) agrees that e-commerce have given the SMEs a chance to competitively rival with the already established enterprises. The recent research suggests that it's due to increased demand by the clients and the stiff competition from their rivals that has made the SMEs to turn to electronic Commerce for survival (Evans & Bosua, 2017). Research suggests that the placement of capital in electronic commerce is highly dependent in the satisfactory evaluation the correlation between the costs and the economic gains. According to Douglas et al. (2017), most of the SMEs rarely view e-commerce platforms as avenues of growth. Instead, SMEs view e-commerce as avenues that strain resource, in a space where capital is a major concern. In the struggle to adopt e-commerce, SMEs fail to implement the system as the cost associated with adoption of e-commerce is high, but also the fear of investing in e-commerce (Kabugumilia, Lushakuzi, and Mtui, 2016). The amount of money incurred when establishing an electronic platform here in Kenya includes the expenditure incurred when purchasing the hardware, the regular cost of maintenance, the software installation cost and charges imposed the telecom service providers (Kabir & Musibau, 2018). In some cases, the cost spent on internet is always higher than the returns from the same SME. Kiplang & Bii (2016) states that, the expenditure incurred on the internet is what limit the option to use online platforms as well as e-commerce. The sprout of different internet connections will help the users to confide in the various and the accurate electronic platforms depending on their certain needs (Xing 2018).

## **RESEARCH METHODOLOGY**

Procedures deployed by researchers in collecting and analyzing of data from the field being concentrated in the study is widely described: research design, target population, procedures of sampling and their samples, instruments for data collection, the test of validity and reliability in the instruments, various procedures for the

collection of data and the procedures for the analysis of the data is the main ideas covered in the research.

## Research design

A cross-sectional survey to determine linkages between variables was the main aim of the research. According to Kumar (2011), in designing cross-sectional descriptive, methods of data collection through interviews and sampling of individual information results to questionnaire administration. In the collection of data, different samples of firms were collected to represent the larger population that could not preview in the data collection. The study was concerned with investigating the causes of the enormous population in Bungoma County, Kenya in adopting e-commerce. A cross-sectional research design was deployed in the study. Additionally, the main focus of the study is on SMEs operating in Bungoma County Kenya legally registered per the taxation requirements of the Kenya Revenue Authority (KRA). The study was limited to a few selected enterprises located in Bungoma town in Kenya. The study will specifically be conducted focused on the cost-benefit analysis of SMEs adopting e-commerce in Kenya. The target population of the study was 1000 licensed SMEs, Kenya. The sample in the study was drawn from a population of SMEs in the non-professional services sector; 200 manufacturing entities, 200 wholesale ventures, 327 in retail/hospitality enterprises, 73 in the ICT sector, and 200 in the professional services sector. A structured questionnaire was adopted in this study as a method of collecting primary data. The reason to use the questionnaire as an instrument of data collection is that this tool is conveniently used to collect a lot of data within a short period and it enabled the researcher to effectively reach the target audience who are geographically spread out in a country (Kothari, 2013). The independent variables were ICT and infrastructure costs and business efficiency while the dependent variable was the adoption of e-commerce. The Statistical Package for Social Sciences version 21 was used to analyze the collected data. There the use of descriptive and inferential statistics was to analyze the findings and the Taro Yamane (1967) formula determines the sample size as shown below;

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

Where n will be the required sample size and N is the target population under study which is 1000, e is the significant level allowed error of 0.05(5%).

Using the above formula the sample size will be:

$$n = 1000 / (1 + 1000(0.05)^2)$$

$$n = 1000 / (1 + 1000(0.0025))$$

$$n = 1000 / (1 + 2.5)$$

$$n = 1000 / 3$$

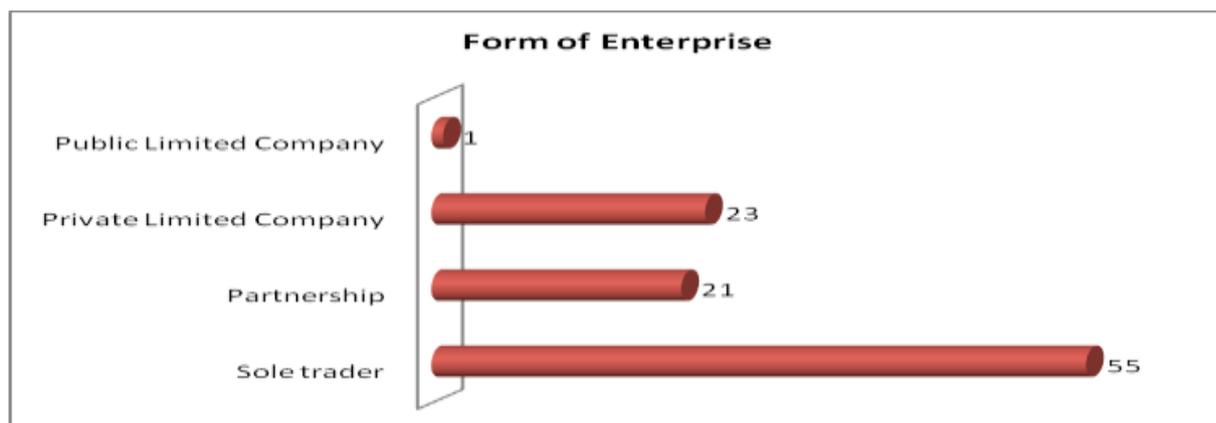
$$n = 333(\text{Rounded})$$

In order to obtain reliable data the researcher has decreased sample size from 333.3333 to 333 persons. The researcher used a systematic sampling technique to identify 120 SMEs which at 1<sup>st</sup> involved randomized selection the identifying every 5<sup>th</sup> until the desired to respondents were selected.

## DATA ANALYSIS

A majority (55%) of the respondents in Bungoma Kenya 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, as shown in Figure 6.

Figure 1: Form of Enterprise



Respondents in Bungoma indicated the frequency at which they applied various forms of e-commerce as per a Likert Scale of 1 to 5; 1-Do not uses 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, divulge that majority of the respondents were of the view that they regularly used E-Commerce applications to communicate with customers, suppliers and employees; to set-up customer/ supplier databases, and to receive orders to a great extent. Also, the 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 as presented in Table 1.

Table 1: Business Efficiency and adoption of E-Commerce Applications by SMEs in Bungoma, Kenya

	Mean	Std.Deviation
communication with customers and stakeholders	4.3396	.61842
For financial accounting	3.7925	.09822
For managing payroll	3.7547	.95888
For market/product research	3.8302	.89305
For banking	4.0189	.77187
For customer/supplier databases	4.3208	.64371
For locating suppliers	4.0755	.72983
For placing and tracking orders via email	3.7358	.07687
For processing payments to suppliers	3.3774	.14735
For Receiving orders	4.2830	.66151
For placing orders	3.6981	.15334
Tracking and enquire about orders by customers via email	3.5849	.94937

For Marketing	3.7358	90194
Source of information	4.0377	89791
Overall Mean	3.8989	

## CONCLUSION

Based on the study findings, it is conclusive that the factors understudy generally explain Cost-Benefit Analysis of SMEs adopting e-commerce by formal SMEs in Bungoma. However, technical skills and IT grasp of business owners and the awareness in the benefits of e-commerce are the key factors explaining e-commerce adoption (Alnaser, Saed, & Aleawashedh, 2018; BGM et al., 2015). The study findings imply that business owners and their staff need to undergo training in Information Technology and its benefits to easily appreciate ICT application in business operations. Investment in tools and programs that can help with knowledge and skills in IT-related fields can go a long way in defining a new culture that is pro-technology. The cost of e-commerce on the other hand explained ICT adoption by SMEs to a small extent. This is attributable to the fact that the government has greatly subsidized ICT costs hence SMEs can easily afford to adopt e-commerce. The existence of policies and programs sponsored by the government towards the development of IT defines an existing framework upon which business owners can build their network. Therefore, business owners in Bungoma County in choosing to adopt or avoid e-commerce do not achieve any cost management advantage for their business. The incentive is not in minimizing costs but maximizing their reach and profitability in the market space. This conclusion is supported by both the descriptive and inferential statistics as indicated

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