E-COMMERCE ADOPTION BY INSURANCE COMPANIES IN KENYA

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A project report submitted to University of Nairobi in partial fulfillment of the requirement for the award of a Master of Science in Information Technology Management Degree
DECLARATION

This project is my original work and to the best of my knowledge this research has not been submitted for any award in any University.

Signature……………………………… Date ………………………………………..
Alexander Maragia
P54/79245/2015

This project report has been submitted in partial fulfillment of the requirement of the Master of Science Degree in Information Technology Management of the University of Nairobi with my approval as the University supervisor.

Signature……………………………… Date ………………………………………..
Dr. Samuel N. Ruhiu
School of Computing and Informatics
University of Nairobi
ACKNOWLEDGEMENTS

I would like to thank the Almighty God for good health and strength freely granted to me and for keeping me focused through the entire MSc. program.

I greatly acknowledge with special thanks the patience, assistance, guidance, suggestions and comments provided by my supervisor for this research project, Dr. Samuel Ruhiu who made it possible for the entire project to get its deserving coherence. I equally appreciate Mr. Christopher Moturi and Dr. Dan Orwa moderation and worthy lectures on several areas.

I would also like to thank the management of all the Insurance Companies that participated in my research work.
DEDICATION

This project is dedicated to my wonderful father and siblings. There is not a doubt in my mind that without all your support- materially, emotionally and spiritually- I would not have managed to complete my MSc. My Mother Margaret K. Maragia; for the material and emotional support, thanks for all the entire home cooked meals and the tough love that kept me focused to the very end.
ABSTRACT

E-commerce helps companies establish stronger relationships with business partners and suppliers, as it enhances the process of selling and buying products by both the company and the consumer, which essentially affect the overall performance. Several opportunities of e-commerce for companies encompass access to new, untapped markets, overcome distance, work together with governments and contribution in value chains (Business to Business); while opportunities for users comprise of access to goods and services at lower prices, knowledge, technology and more competition. Indeed there exists a rich benefit of e-commerce adoption as opposed to the traditional commerce. The recognition given to e-commerce all over the world is flourishing intensively. However, the adoption of e-commerce in the insurance industry has been slow. There is slow uptake of e-commerce among insurance firms in Kenya. This is attributed to certain e-commerce adoption factors which have not been fully developed in Kenya context. Therefore, a perspective study to explore the factors that affect e-commerce adoption in Kenyan insurance companies is necessary to fill in the gap. The main objective of this study was to explore the factors that affect e-commerce adoption among insurance firms in Kenya. The target population was the insurance companies in Kenya where 50 insurance companies were the sample size. Multiple regression analysis was done and the results shows that technological factors, organizational factors and environmental factors all have influence on the rate of adoption on e-commerce among insurance firms in Kenya.

Key words:
Adoption, e-commerce, insurance, IT Adoption and TOE.
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LIST OF ABBREVIATIONS

APA: APA insurance Company of Kenya
AKI: Association of Kenya Insurers
AIBK: Association of Insurance Brokers of Kenya
COMESA: Common Market for East and Southern Africa
EC: E-commerce
GDP: Gross Domestic product
ICT: Information Communication Technology
IRA: Insurance Regulatory Authority
KES: Kenya Shillings
MIPS: Medical Insurance Providers
CHAPTER ONE
INTRODUCTION

1.1 Background of the study

Because of the number of Internet clients, enhanced access to broadband, e-business has cleared its way in the worldwide markets. E-trade can be characterized as the purchasing and offering of items and benefits and to encourage the exchange of business exercises between and among organizations, people, governments or different associations utilizing Information Communication Technology (ICT) based applications (Fink and Disterer, 2006). E-commerce has several advantages, it reduces costs associated with activities of the company, it also aids in streamlining processes making them smoother. E-commerce also enhances the company’s market reach and open up new business horizons, it also improves operational efficiency in the long and short terms. Furthermore, E-commerce help companies establish stronger relationships with business partners and suppliers, as it enhances the process of selling and buying products by both the company and the consumer, which essentially affect the overall performance (Hajli et al., 2014). Advantages of e-commerce for companies include access to new markets, overcome distance, work together with governments and other entities (Fredriksson, 2013).

The acknowledgment given to e-trade everywhere throughout the world is thriving seriously. Be that as it may, the appropriation of e-business in the protection business has been moderate. The restricted utilization of e-trade by SME's may because of a few components. Elements impacting e-business selection have been inspected broadly in the writing (Chen and McQueen, 2008). So also, the acknowledgment of e-trade in the protection business in Kenya has been moderate. We examine the variables that impact e-business selection among insurance companies in Kenya.

According to Hajli et al., (2014) e-business framework contributes fundamentally to national profitability development through the expulsion of non-esteem included exercises in the business procedure. The growth of e-business has been on the increase in Kenya. While a few authors have noticed the real challenges in getting the frameworks operational, there is for all intents and purposes no exchange of usage and administration models of e-business in Kenya or of the
monetary advantages of these models for the organizations, providers, and the clients or for those whose duty it is to execute and oversee e-business. Actually, there has all the earmarks of being little thought of the administration or hierarchical issues connected with e-business.

E-business shows various advantages to organizations. Organizations to exploit the open doors made by e-business, organizations actualize sites that work at an abnormal state of e-trade. Fredriksson (2013) groups sites into seven levels: site for corporate data, site for item/benefit data, client bolster through Web, charge card arrange preparing, web access to request data, buy arrange handling and online commercial centers. Moore's grouping distinguishes the diverse e-business capacities that a site has. It is recognized that sites can be essential; including just organization data or more progressed with usefulness for producing market deals. Without a doubt there exists a rich advantage of e-business appropriation rather than the customary trade. The acknowledgment given to e-business everywhere throughout the world is prospering seriously. Notwithstanding, the appropriation of e-business in the protection business has been moderate. The constrained utilization of EC by protection may because of a few components. Components affecting e-trade appropriation have been analyzed widely in the writing (Ramdani et al., 2013).

1.2 Problem Statement
Companies in the Insurance industry need to get in the e-business game or they will be closed out of a basic part of the commercial center (Hinton & Barnes, 2015). The importance of e-businesses has been well documented in reports by the U.S. government as well as independent organizations (Hinton & Barnes, 2015). Mbuvi (2010) surveyed the possibilities for the reception of e-business by tour administrators in Nairobi. The discoveries demonstrate that the possibilities of selection of e-business by tour administrators in Nairobi incorporate chop down in turnaround times expanded lessened costs and subsequently expanded productivity and proficient and successful treatment of client grumblings. Musembi (2011) embraced an examination concerning the components that have affected the selection of ecommerce in the retailing business. The discoveries show that the impacting variables incorporate the need to stay focused by receiving new innovations, choice by top administration and productivity and viability in administration conveyance. Muganda (2011) explored the business estimation of e-trade in chose firms in
Kenya which were not from the insurance industry. Muganda established that the business value included increased profitability due to reduced operational costs emanating from online transactions and efficiency in service delivery among others.

Muyoyo (2012) investigated on the elements impacting the appropriation and usage of e-commerce advancements in organizations cited at the Nairobi Stock Exchange. Muyoyo's setting of e-business is broader covering different parts of e-commerce. The respondents of were data frameworks supervisors who are empowering influences in actualizing innovation frameworks in associations. The discoveries demonstrated that the organizations cited on the Stock Exchange had proposed to lessen the turnaround times for their exchanges, decrease operational expenses and in the long run increment their gainfulness.

It is clear that there are gaps from the above studies in a Kenyan context in that, even though it is clear that insurance companies use one form or the other of an e-business solution, the state or level of implementation and use is not known, the actual adoption of e-commerce in insurance is limited. Therefore, a perspective study to explore the factors that affect e-commerce adoption in Kenyan insurance companies is necessary to fill in the gap.

1.3 Objective of the Study

1. To identify the factors affecting adoption of E-commerce in insurance companies in Kenya.

2. To develop a conceptual framework for e-commerce adoption/ adoption level decisions for insurance companies in Kenya.

1.4 Significance of the Study

In the face of the slow uptake in terms of e-commerce in the insurance industry in Kenya, this study helps put into perspective a better understanding of the impediments to its adoption. This research puts into perspective the technical, organizational, and environmental issues in e-commerce adoption in developing economies. It also brings the work of other researchers into greater focus, and updates and extends the existing literature by incorporating theory into an empirical research design. As a result, this
study enables the development of a conceptual framework for insurance firms contemplating an online retail strategy. In terms of theoretical contribution, this study demonstrates how the TOE framework can be used to enhance success in the implantation of electronic commerce in Kenya’s insurance sector.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction
This chapter covers the past studies done relating to the topic. The chapter will broadly cover the concept of e-commerce and its adoption by insurance firms in Kenya and the conceptual framework.

2.2 Insurance Industry in Kenya
Insurance has been in Kenya for a while now. Originally, insurance was introduced in Kenya by early white settlers. There was inadequate uptake of insurance product and service, Minimal Government intervention and comparatively low competition. There was little interest for the administrations and items offered, government supervision was insignificant and rivalry generally low. Nonetheless, after the issuance an administration order in 1978 which required all outside insurance agencies to be fused in Kenya by 1980 and the presentation of the Insurance Act CAP 487 of the laws of Kenya, the industry has since experienced colossal development.

Numerous insurance agencies sprung up in the 1980s and numerous more organizations were fused in the 1990s. This move has seen the quantity of enrolled insurance companies develop from 15 in 1978 to 39 in 2001 and more than 50 in 2014. Other than the Insurance companies, there are other players in the market comprising of 3668 Agents, 141 Insurance Brokers, 105 Investigators, 14 medical Insurance providers, 23 Insurance surveyors, 8 Risk managers, 21 Loss Adjustors and 2 Reinsurance Companies. There are two main Associations which are The Association of Kenya Insurers (AKI) and The Association of Kenya Insurance Brokers of Kenya (AIBK). The regulating body of the industry is the Insurance Regulatory Authority.

2.3.1 Role in E-Commerce in Insurance
The current Insurance industry landscape in Kenya can comprehensively be characterized into general and life/long term. The General insurance sector in Kenya include: Motor-Commercial &
private, fire-residential, flight, Fire-Industrial and Engineering, burglary, laborers' pay, Motor-
Private and Personal Accident building, risk, marine, and random. The life Insurance business in
Kenya include: Ordinary Life and Superannuation. Electronic commerce is defined as the use of
ICT based applications to produce and distribute the insurance goods and services. E-commerce
presents many benefits for companies to take advantage of the opportunities created.

2.3.2 Adoption of E-Commerce in the Insurance Industry
With the advent of the internet many insurance companies are providing information on
insurance products through websites. Despite other players in the financial sector, such as banks,
having taken advantage of the opportunities created by e-commerce, the insurance industry has
been slow to fully adopt e-commerce.

There are various scholars who have written extensively varied aspects of E-insurance. Alipour
et al examined the specialized, sparing, legitimate, operational and regular practicality aspects
affecting electronic insurance in Asian Iranian insurance companies using the (TELOS Model).
Other authors identified impediments of e-commerce adoption in the financial services sector,
which incorporate attitude, alleged behavioral control, alleged usefulness, alleged convenience,
alleged credibility, trust and alleged cheaper services (Salehi & Alipour, 2010; & Yu, 2012).
Along with perceived benefits, there are other impediments to the adoption of e-commerce in the
sector.

2.4 Challenge to E-Commerce in the Insurance Industry
Very few insurance companies provided information on the capability to purchase various
insurance policies online. At the same time there are other insurance companies that have started
to venture virtually. Various insurance companies have met varying degrees of success while
adopting e-commerce.

2.5 Theoretical Frameworks
The theoretical starting point for our analysis is the well-established literature on factors that
affect e-commerce adoption. We review existing theoretical models focusing on technology
adoption.
2.5.1 Theory of Reasoned Action
According to the theory, behavioral intention or the willingness to adopt an innovation determines behavior (adoption).

![Diagram of Theory of Reasoned Action (TRA)](image)

Figure 2.1: Theory of Reasoned Action, TRA (Fishbein & Ajzen, 1975)

2.5.2 Theory of Planned Behaviour
According to the theory, behavioral intention determines individual behavior. Behavioral intention is determined by attitude, subjective norm and perceived behavioral control.

![Diagram of Theory of Planned Behaviour (TPB)](image)

Figure 2.2: Theory of Planned Behaviour, TPB (Kuhl & Beckmann, 1985)
Attitude towards behaviour is the degree to which a person has positive or negative feelings towards a behavior. Subjective norm refers to the belief about what others of the individual action of the particular behavior. Perceived Behavioral Control refers to the individual’s perception of the effort to perform a particular.

2.5.3 Technology Acceptance Model (TAM)

According to the model user acceptance of a technology is determined by perceived ease-of-use and perceived usefulness. Perceived usefulness refers to an individuals’ perception that using a particular innovation will increase his or her job performance. Perceived ease of use refers to an individual’s own perception of easiness in using a particular innovation.

![Figure 2.3 Technology Acceptance Model, TAM (Davis, 1989) and (Venkatesh, 2003)](image)

2.5.4 Unified Theory of Acceptance and Use of Technology

The UTAUT theory explains client plans to use a particular innovation and consequent utilization behaviour. Performance expectancy determined by individual perception that operating a specific application system will increase their performance. Effort expectancy refers to the perceived easiness in using a particular application system. Social influence is defined as the individuals’ perception of what other people next to him/her trust that he or she ought to utilize a specific application framework. At last, encouraging conditions allude to the arrangement of support for clients as far as PC equipment and programming important to chip away at a specific application framework (Venkatesh et. al., 2003). Moreover, various individual
differences influence technology use as explained by the UTAUT model. These individual differences are age, gender, and experience.

![Figure 2.4: Unified Theory of Acceptance and Use of Technology, (Venkatesh, 2003)](image)

**2.5.5 Technology Organisation Environment (TOE) Framework**

The TOE framework posits that technological innovation in organizations is influenced by three factors. The framework defines the technological context, organizational context, and environmental context and how they impact the implementation of an invention.

![Figure 2.5: Technology Organization Environment, TOE (Tornatzky and Fleischer’s, 1990)](image)
2.6 Comparison of the Theoretical Models

The TOE framework has been selected as the preferred hypothetical center for the growth of our conceptual framework. The system has been broadly eminent by past studies as evidence based framework through which to study electronic commerce implementation (Ramdani, Chevers, &Williams, 2013; Morteza, Daniel, & Jose, 2011).

The TOE framework also considers various contexts, the technological, organizational and environmental contexts. Previous studies have failed to address technical capabilities and human resources as constructs, without proper technical capabilities and human resources this will impede on the adoption and usage of e-commerce.

2.7 Conceptual Framework

This section provides a structure that is highly simplified that is intended to provide insight into what the paper wants to explain (Kakwezi & Nyeko, 2010). A conceptual research to a given level is related to sort of an abstract theory or an idea. It is in most case put to use by thinkers and philosophers to come up with new concepts or simply to give an existing interpretation. It gives familiar and easily understood relationship of the variables under the study.
Figure 2.6: Proposed Framework Source: Adopted from Technology, Organization Environment, TOE (Tornatzky and Fleischer’s, 1990)
2.7.1 Technological Context
This construct explains characteristics and features of the technologies in use and new technologies available to the organization. The following are sub indicators within the technology context construct: perception of technology, availability and characteristics.

2.7.2 Organizational Context
Organizational context is defined as the characteristics of an organization. These include organization size, management structure, organizational working culture, organization’s human resource, organizational technological resources infrastructure and organizational financial resources.

2.7.3 Environmental Context
The environmental context concerns the surroundings of the organization; this includes government support, supporting services, industry standards and trading partner readiness. The Government plays a very important role in providing the relevant policies for the growth of internet business in the insurance sector.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction
This chapter covers on research design, data collection methods, sample size, population and tools of data collection

3.2 Research Design
The study used a descriptive survey research design presumably because to acquire first hand data from the respondents. According to Creswell (1994), the descriptive method of research is to gather information about the present existing condition.

3.3 Population of the Study
Fifty (50) insurance companies regulated by IRA forms the population of the study.

3.4 Sampling Design
A random sample of 20 insurance companies was used. The respondents of the study included head of departments, managers, underwriters, business developers, ICT Managers, ICT Support Assistants, Claims Managers and accountants.

3.5 Data Collection
The study collected primary data using a well-structured questionnaire with closed ended questions. Personal interviews were used to administer the questionnaires, this method allowed the researched to get appointments and do personal follow ups on the distributed questionnaires. The questionnaire was separated into two sections. The first part of the questionnaire was designed to focus on the demographic information of the respondents including current employer, department, work experience at the company, education level and total experience. The second part included questions about the respondents perception on the electronic commerce practices and processes used in the company.
3.6 Questionnaire Piloting

Pre-test interviews were conducted to assess and enhance the semantic content validity of the items by assessing the correspondence between candidate items and the definitions of the constructs they are intended to measure. The assessment resulted in re-organization of the test items into different domain constructs. Some test items were re-framed for clarity.

The resulting items were piloted on a representative sample in order to assess the reliability and factorial validity of the test items. 10 questionnaires were prepared and used to collect information from respondents who were picked at random within the company. Responses from 8 respondents were received. Out of the 8 received, 2 were invalid due to incomplete filling. The total valid responses were 6, giving a response rate of 60%.

3.7 Operationalization of the Research Variables

Operationalization is the process of strictly defining variables into measurable factors. This process defines concepts and allows them to be measured empirically and qualitatively.

Table 3.1 Operationalization of variables

<table>
<thead>
<tr>
<th>Factor</th>
<th>1st Order Indicator</th>
<th>Sub Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technological</td>
<td>Perception of Technology</td>
<td>Perceived direct and indirect benefits, Perceived need for technology, IT Support, IT Infrastructure, IT Policy, Flexibility, Awareness - Employees’ perceptions of benefits, threats and impact of e-commerce adoption</td>
</tr>
<tr>
<td>Availability</td>
<td></td>
<td>Availability of technology</td>
</tr>
<tr>
<td>Characteristics</td>
<td></td>
<td>Features of the technology</td>
</tr>
<tr>
<td>Organizational</td>
<td>Firm Size</td>
<td>Organizational Resources –( Financial, Technological and Human Resources)</td>
</tr>
<tr>
<td>Management Support</td>
<td></td>
<td>Organizational Support, Organizational culture,</td>
</tr>
<tr>
<td>Environmental</td>
<td>Government Support</td>
<td>Existing legal and regulatory framework, Government support,</td>
</tr>
<tr>
<td>------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>Supporting Services</td>
<td>Support for e-commerce related technologies, Support from technology vendors Availability of telecommunication infrastructure.</td>
</tr>
<tr>
<td>Industry Standards</td>
<td></td>
<td>Availability of standards, Availability of coordinating bodies</td>
</tr>
</tbody>
</table>

The tested hypothesis in this research study include:—

1. **H1:** There is a positive relationship between the Technology Construct and the adoption of e-commerce by insurance companies

2. **H2:** There is a positive relationship between the Organization Construct and the adoption of e-commerce by insurance companies in term of financial readiness, organizational culture, technological readiness and IT experience

3. **H3:** There is a positive relationship between Environment Construct and the adoption of e-commerce by insurance companies in terms of government policies, supporting services, industry standards and competitive pressure
CHAPTER FOUR:

FINDINGS AND DISCUSSION

4.1 Introduction
This chapter discusses the result of the questionnaire responded by the participants. In gathering information pertaining to the above study, a questionnaire was used as the main instrument for data collection.

4.2 Reliability Analysis
The reliability analysis shows an alpha coefficient of 0.746. It is higher than 0.70 as recommended by Hair (1998).

4.3 Demographic Profile of the Respondents
This section also includes the gender of the respondent, age of the respondents and the education level.

Table 4.1: Demographic Profile of the Respondents

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>34</td>
<td>68%</td>
</tr>
<tr>
<td>Female</td>
<td>17</td>
<td>32%</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 - 30</td>
<td>29</td>
<td>57%</td>
</tr>
<tr>
<td>31 - 40</td>
<td>13</td>
<td>25%</td>
</tr>
<tr>
<td>41 - 50</td>
<td>8</td>
<td>16%</td>
</tr>
<tr>
<td>50 - 60</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Academic Qualification</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher Education</td>
<td>31</td>
<td>60%</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>19</td>
<td>38%</td>
</tr>
<tr>
<td>PhD</td>
<td>1</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Work Experience</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-5 years</td>
<td>24</td>
<td>47%</td>
</tr>
<tr>
<td>6-10 years</td>
<td>10</td>
<td>20%</td>
</tr>
<tr>
<td>11 years or more &gt;</td>
<td>17</td>
<td>33%</td>
</tr>
</tbody>
</table>
### 4.4 Pearson Correlation Analysis

Pearson correlation is used to determine the relationships between the items factors in the conceptual framework the relationships between the various constructs of the conceptual framework, which are identified as technology, organization and environment. The table below shows their relationships. As presented in the tables below, the results of Pearson product-moment correlations show significant positive correlations between all the constructs of the conceptual framework.

The table below shows the findings of correlation analysis which indicates that technology construct is significantly correlated to the organizational construct (0.457). Technology construct is also correlated to environment construct (0.488). The overall findings of correlation analysis shows that most of the constructs are interlinked which implies that change in any component will affect other components as well as electronic commerce adoption. The correlations between the test items were significant with most of the constructs having a value of above 0.3.

<table>
<thead>
<tr>
<th></th>
<th>Technology</th>
<th>Organization</th>
<th>Environment</th>
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</thead>
<tbody>
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<td>Technology</td>
<td>1</td>
<td>.457**</td>
<td>.488*</td>
</tr>
<tr>
<td>Organization</td>
<td>.457**</td>
<td>1</td>
<td>.562**</td>
</tr>
<tr>
<td>Environment</td>
<td>.488**</td>
<td>.562**</td>
<td>1</td>
</tr>
</tbody>
</table>

### 4.5 Regression Analysis

Regression analysis is used for finding the best relationship between a dependent variable and selected independent variables. Regression analysis is used in this research to obtain a statistical model fit of the developed framework.

### 4.6 Hypothesis Testing Results

At this stage, the T-test is carried out to show relationship between the independent and the dependent variable. This test checks the hypothesis that $\beta_1$ is equal to. If there was no relationship between the independent and dependent variables, $\beta_1$ would be equal to 0. The results are as follows:
**H1:** There is a positive relationship between the Technology Construct and the adoption of e-commerce by insurance companies.

Hypothesis 1 (H1) was supported indicating that technological capabilities have significantly positive effect on the adoption of e-commerce ($\beta=0.154$; $p<0.01$).

**Table 4.3: Technological factors**

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>.859</td>
<td>.244</td>
<td></td>
<td>3.526</td>
<td>.001</td>
</tr>
<tr>
<td>TECHNOLOGY</td>
<td>.112</td>
<td>.131</td>
<td>.154</td>
<td>.851</td>
<td>.401</td>
</tr>
</tbody>
</table>

a. Dependent Variable: ADOPTION

**H2:** There is a positive relationship between the Organization Construct and the adoption of e-commerce by insurance companies in term of financial readiness, organizational culture, technological readiness and IT experience.

Hypothesis 2 (H2) was supported indicating that the organization construct have a significantly positive effect on the adoption of e-commerce ($\beta=0.202$; $p<0.01$).

**Table 4.4: Organizational factors**

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>.862</td>
<td>.183</td>
<td></td>
<td>4.705</td>
<td>.000</td>
</tr>
<tr>
<td>ORGANIZATION</td>
<td>.078</td>
<td>.069</td>
<td>.202</td>
<td>1.130</td>
<td>.268</td>
</tr>
</tbody>
</table>

a. Dependent Variable: ADOPTION
**H3:** There is a positive relationship between Environment Construct and the adoption of e-commerce by insurance companies in terms of government policies, supporting services, industry standards and competitive pressure.

Hypothesis 3 (H3) was supported indicating that the Environment Construct have a significantly positive effect on the adoption of e-commerce ($\beta= 0.204; p<0.01$).

### Table 4.5: Environmental factors

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.748</td>
</tr>
<tr>
<td></td>
<td>ENVIRONMENT</td>
<td>.127</td>
</tr>
</tbody>
</table>

### 4.7 Discussion of Results

The research results show that technological context, organizational context and environmental context are statistically significant in the adoption of e-commerce. From the results, the two most noteworthy factors are: Environment Construct ($\beta= 0.204; p<0.01$) and Organization Construct ($\beta= 0.202; p<0.01$). This finding is consistent with many past studies (Chwelos et al., 2001) that discovered the environmental context, such as the government support, existing legal and regulatory framework and support from e-commerce vendors play a vital role in determining the adoption of e-commerce. The technology construct ($\beta= 0.154; p<0.01$) was also found to be significant in shaping e-commerce adoption among insurance companies.

From the organizational constructs, the findings also reveal that support from senior management which is a part of the commitment variable influenced the adoption of E-Commerce adoption to a large extent. This could largely be attributed to the fact that the Senior Management forms the key decision making units among the insurance companies.
CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter summarizes the whole study findings; it includes the summary of finding, conclusion, recommendation and suggestion for further studies.

5.2 Conclusion

5.2.1 Factors Affecting E-commerce Adoption in Insurance Companies in Kenya

The results show that the three factors in TOE, that is technological organization and environmental factors affect e-commerce adoption in the insurance companies in Kenya. Inadequacy for technology infrastructure among many insurance firms act as an hindrance to adoption of e-commerce, security threats, technological perception, and the availability of technology itself. Organizational factors also influence the rate of adoption of e-commerce in insurance firms in Kenya. The employee’s technological knowhow plays important role in ensuring quick adoption of e-commerce by insurance companies, the organization capital base, the organization culture and management perceived ideas on a given technology. Environmental factors influence the rate of adoption of e-commerce by the insurance firms, constructs like government policies, industry standards, competitiveness of the industry and the supporting services all have effect on adoption of the e-commerce by insurance industry.

5.2.2 Framework Specification

The findings demonstrate that e-commerce adoption is dependent on Technological context, the organizational context and environmental context. The results show the two most significant factors as: Environment Context and Organization Context. The technological context was also found to be significant in determining e-commerce adoption among insurance service providers.

5.3 Recommendation

This research recommends e-commerce adoption and its utilization in the insurance industry in developing country like Kenya. It provides a better understanding of the process of innovation
adoption in the insurance industry, which has not been investigated previously. Exploring the motivations, technological, organizational, and environmental factors and yields a deeper understanding of e-commerce development. This study is focused on one particular industry, unlike other studies in developing countries and Kenya which did not focus on any single industry. Therefore, this study increases the depth of our understanding of the adoption and implementation of e-commerce in the insurance industry in Kenya.

5.4 Study Contributions

This study has contributed to policies and practices by providing rich information about factors affecting e-commerce adoption and implementation in the retail industry. The findings of this research have a number of important implications that may assist business managers and governments to facilitate the adoption of e-commerce. For management this study demonstrates the importance of business owners and management in developing e-commerce during the adoption and implementation process. In fact, without the knowledge and commitment of, and their willingness to share the responsibility of the implementation process with employees and middle management, e-commerce will not be successfully adopted and implemented. Moreover, it is essential for management in developing countries to trust and encourage their employees in using new technology. In addition, high quality internal information technology (IT) infrastructure, and access to financial resources, will help organizations in developing countries to adopt e-commerce. Moreover, organizations must have a clear plan for e-commerce adoption that is in alignment with the company’s strategies.

For government, this study reveals that without government support in developing countries, businesses and the public will not embrace e-commerce. This framework demonstrates the responsibility of government to address the country’s legal framework to organize the relationship between sellers and payers, and to increase trust towards the use of online services for commercial purposes. As well, the Kenyan government needs to issue strong privacy and personal information disclosure laws.
5.5 Limitations of the Study

The research was limited by some insurance firm’s employees not accepting to fill the questionnaires due to the nature of their job so such people gave no response hence a major limitation of this study.

5.6 Suggestion for Further Research

The following suggestions are recommended for further research, further research need to be done to establish if there any policies followed by the companies and since the current study was carried out on insurance industry only. Other sectors of economy need to be tested too.
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APPENDICES

Appendix 1: Letter from University of Nairobi Authorizing Research work

UNIVERSITY OF NAIROBI
COLLEGE OF BIOLOGICAL AND PHYSICAL SCIENCES
SCHOOL OF COMPUTING AND INFORMATICS

TO WHOM IT CONCERN 8 August 2016

ALEXANDER MARAGIA (P54/79245/2015)

The above named is a student in the MSc in Information Technology Management of the University of Nairobi. As part of the requirements of the programme the student is required to undertake a research project and write a report. His project is entitled: E-Commerce Adoption by Insurance Companies in Kenya. The objective of the research is to ascertain why the insurance industry in Kenya has not taken advantage of e-commerce in light of technological advancement in their business operations.

Your institution has been identified as a source of data required for this project. I am therefore requesting that you assist the student obtain required information. Your assistance will be highly appreciated

Yours faithfully,

CHRISTOPHER A. MOTURI
DEPUTY DIRECTOR
SCHOOL OF COMPUTING AND INFORMATICS
Appendix 2: Questionnaire on E-Commerce Adoption by Insurance Companies in Kenya.

Thank you for sparing some time to fill this questionnaire. Your views will go a long way in enhancing this research. The study explores the link between organizational, people and technological readiness in the adoption of e-commerce in the Insurance Sector in Kenya.

**PART 1**

Indicate your agreement by typing "✓" sign in the appropriate box for each statement in the following sections.

Note: In the agreement scale, “Neutral” is to be selected when you neither agree nor disagree with a statement.

<p>| Strongly Agree – SA, Agree – A, Neutral – N, Disagree – D, Strongly Disagree - SD |
|-----------------------------------|---|---|---|---|---|
| TECHNOLOGICAL CONTEXT               | SA | A | N | D | SD |
| Our organization is aware of e-commerce implementations of our partner organizations. |   |   |   |   |   |
| Our business recognizes the opportunities and threats enabled by e-commerce. |   |   |   |   |   |
| Our organization understands e-commerce business models that can be applicable to our business. |   |   |   |   |   |
| Our organization has thought about whether or not e-commerce has impacts on the way business is to be conducted in our industry. |   |   |   |   |   |
| We understand the potential benefits of e-commerce to our business. |   |   |   |   |   |
| We have sufficient experience with network based applications. |   |   |   |   |   |
| Our organization is well computerized with LAN and WAN. |   |   |   |   |   |
| We have high bandwidth connectivity to the Internet. |   |   |   |   |   |
| Our existing systems are flexible. |   |   |   |   |   |
| Our existing systems are customizable to our customers’ needs. |   |   |   |   |   |
| E-commerce will have tremendous impact on the way we conduct business in our company. |   |   |   |   |   |
| E-commerce will improve competitive position. |   |   |   |   |   |
| E-commerce reduces the company’s overall operating cost. |   |   |   |   |   |
| E-commerce helps our company to expand market share. |   |   |   |   |   |
| E-commerce helps company to increase customer base. |   |   |   |   |   |
| E-commerce improves customer services and satisfaction. |   |   |   |   |   |
| E-commerce enables us to perform our operation more quickly. |   |   |   |   |   |</p>
<table>
<thead>
<tr>
<th>ORGANIZATIONAL CONTEXT</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most of our employees are computer literate.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most of our employees have unrestricted access to computers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We are committed to using e-commerce to improve our business activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our business has a clear vision on e-commerce.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our vision of e-commerce activities is widely communicated and understood throughout our company.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our e-commerce implementations are strategy-led.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All our e-commerce initiatives have champions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Senior management champions our e-commerce initiatives and implementations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have sufficient business resources to implement e-commerce.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ENVIRONMENTAL CONTEXT</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are effective laws to protect consumer privacy.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>There are effective laws to combat cyber-crime.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The legal environment is conducive to conduct business on the Internet.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The government demonstrates strong commitment to promote e-commerce.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The telecommunication infrastructure is reliable and efficient to support e-commerce.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The technology infrastructure of commercial and financial institutions is capable of supporting e-commerce transactions.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We feel that there is efficient and affordable support from the local IT industry to secure electronic commerce environment.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our organization is aware of our competitors’ e-commerce and e-business implementations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ECOMMERCE ADOPTION**

Please indicate which of the following describes your current e-commerce level? Please choose one question

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Our company is not connected with the internet.</td>
<td></td>
</tr>
<tr>
<td>Our company is connected to the internet with only e-mail but no website.</td>
<td></td>
</tr>
<tr>
<td>Our Company has a static website that present company’s information and advertise its products.</td>
<td></td>
</tr>
<tr>
<td>Our company has an interactive website that accepts online orders, queries and forms.</td>
<td></td>
</tr>
<tr>
<td>Our company accepts online transactions through the website that allows buying and selling.</td>
<td></td>
</tr>
<tr>
<td>Our company has a website connected with computer systems that allows our company to do online transactions.</td>
<td></td>
</tr>
</tbody>
</table>
Part 2: General Information:
1- Name of Company:__________________________________________________________________
2. Current position in organization____________________________________________________
3- Gender: A- Male B- Female
4- Age (years): A- Under 21 B- 21-30 C- 31-40 D- 41-50 E- 51-60 F-Over 60
5- Years of Experience in Insurance Industry:________
6- Highest Academic Qualification: A- Basic Education B- Secondary Education
   C- Higher Education D- Master’s Degree E- PhD F- Others (please specify)______________

- THANK YOU FOR TAKING YOUR TIME TO COMPLETE THE QUESTIONNAIRE.
Appendix 3: Letter to Respondents

Alexander Maragia  
P.O Box 15464-00100,  
Nairobi.  
Tel 0738 111969

Dear Respondent,

RE: REQUEST FOR PARTICIPATION IN RESEARCH WORK

I am a postgraduate student pursuing a master of science in Information Technology Management (ITM) degree at the University of Nairobi, School of computing and informatics. As part of my requirements for the award of the degree, a student is expected to carry out and submit a research project.

I am currently conducting a research on E-Commerce Adoption by Insurance Companies in Kenya. The objective of the research is to ascertain why the insurance industry in Kenya has not taken advantage of e-commerce in light of technological advancement in their business operations. The information will be treated with utmost confidentiality and will only be used for academic research purpose. Should you require the findings of this research, I will not hesitate to provide the information. Your participation is highly appreciated.

Yours faithfully,

Alexander Maragia  
MSc. ITM Student
## Appendix 4: Insurance Companies in Kenya

<table>
<thead>
<tr>
<th>I. GENERAL COMPANIES</th>
<th>II. COMPOSITE COMPANIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. AAR Insurance Company Ltd</td>
<td>1. British American Insurance Co. (K) Ltd</td>
</tr>
<tr>
<td>3. AIG Insurance Company</td>
<td>3. Corporate Insurance Company</td>
</tr>
<tr>
<td>4. APA Insurance Company</td>
<td>4. First Assurance Company</td>
</tr>
<tr>
<td>5. Britam General Insurance Co (K) Ltd</td>
<td>5. Geminia Insurance Company</td>
</tr>
<tr>
<td>8. Fidelity Shield Insurance Company</td>
<td>8. Saham Assurance Company</td>
</tr>
<tr>
<td>12. ICEA Lion General Insurance Co</td>
<td>III. LIFE INSURANCE COMPANIES</td>
</tr>
<tr>
<td>17. Occidental Insurance Company</td>
<td>5. GA Life Assurance Company Ltd</td>
</tr>
<tr>
<td>25. Xplico Insurance Company Ltd</td>
<td>13. Prudential Life Assurance Company</td>
</tr>
<tr>
<td></td>
<td>14. UAP Life Insurance Company Ltd</td>
</tr>
</tbody>
</table>

**Source:** Association of Kenya Insurers, June 2014