



**THE EFFECT OF INFORMATION COMMUNICATION TECHNOLOGY STRATEGY IMPLEMENTATION ON ORGANIZATIONAL PERFORMANCE OF INSURANCE SECTOR IN KENYA**

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**ABSTRACT**

*Insurance industry is key to economic growth of any Country, in Kenya the sector has been cited as major player in the attainment of Kenya Vision 2030. The Kenya's insurance industry was reported to be the fastest growing industry in Africa in 2015. Information and Communication Technology has upped the stakes for all insurers, particularly in relation to today's empowered consumers, both searching and buying insurance on the internet. In today's world with smartphones and tablets, customers are increasingly expecting to have instant access to services wherever, however and whenever they want. With this in mind, insurance companies in Kenya have started exploring the growing impact of using new technological platforms to communicate with customers, cater for evolving buying behaviors and mine a rich source of customer insights. This study took this perspective to bridge the existing gap in order to establish the effect of information communication technology strategy implementation on performance of insurance sector in Kenya. The study adopted a descriptive cross-sectional survey. The population for this study was 50 insurance companies in Kenya. Census survey was used to select all 50 Insurance companies. The unit of observation consisted of heads of two functional areas in each insurance company. A sample of 150 respondents was considered as adequate for this study. This study used primary and secondary data. Primary data was collected using a questionnaire. The study found that ICT investment cost affects the performance of insurance sector in Kenya. ICT investment offers potential for significant organizational improvement and competitive advantage. ICT investment cost is relatively high but improves organization performance in the long run while ICT investment does not always translate into monetary rewards in insurance sector. The study revealed that ICT competency affects the performance of insurance sector in Kenya to a great extent. The insurance sector employees have experience on application of various ICT technologies and are equipped with the right knowledge on information technology. The study recommends that insurance companies should thus include considerable amount of capital in their budget for ICT investment purposes. The study established that in the insurance sector employees have technical skills on ICT.*

**Key Words:** Investment Costs, ICT Competence, Organization Performance

## INTRODUCTION

Growth in global Information Communication Technology (ICT) spending over the past three decades has been considerable. Avram (2011) outlined that global ICT expenditure was growing at a rate faster than worldwide GDP. In 2015, Gwillim, Dovey and Wieder (2015) suggested that global ICT spending exceeds \$1 trillion per annum. According to Bhatnagar (2015), ICT is one of the most important business driving strategies of the 21<sup>st</sup> century. The reasons for this considerable growth can be linked to the increased realization of ICT's importance in achieving competitive advantage. The significant increase in ICT's scale, complexity, strategic focus, connectivity and processing power in recent years has further heightened awareness of ICT's potential to positively affect an organization's competitive position (Kohli & Sherer, 2012).

Information and Communication Technology (ICT) is a multi-trillion-dollar industry. It offers potential for significant organizational improvement and competitive advantage. However, ICT investment strategy does not always translate into monetary rewards. According to Powell (2010), ICT investment in organizations has grown considerably throughout the past three decades. By 2008, in the developed world, ICT investment strategy accounted for more than 50% of organizations annual capital investments and was expected to account for 5% of revenues by 2010 (Powell, 2010). The main driving force behind this large-scale ICT investment is the promise of increased competitive advantage (Hu & Plant, 2011), as ICT is regarded as a strategic weapon that can positively affect organizational change (Gregor, Martin, Fernandez, Stern & Vitale, 2012). More than two thirds of Fortune 100 companies believed that they did not realize their ICT investment potential (Anandarajan & Wen, 2009). A 2013 Standish Group survey of over 13,000 ICT projects revealed that US

organizations invested more than \$255 billion per annum on ICT, \$55 billion of which was spent on failed projects (Al-Shehab, Hughes & Winstanley, 2015).

Depending on the project sample studied, authors have reported various ICT project failure rates, for example 15% (Al-Shehab *et al*, 2015) and 25% (Keil, Mann & Rai, 2010). In addition, statistics on troubled ICT projects vary. Smith and Keil (2013) reported that 74% of software development projects were troubled; Al-Shehab *et al* (2015) suggested that 51% of projects experienced budget and timescale overruns and deficient functionality, while Keil, Mann and Rai (2010) stated that 30%-40% demonstrated project escalation. Some troubled projects can be categorized as "runaway" (Keil *et al*, 2010); they absorb large amounts of resources but fail to deliver value. Hence, according to Montealegre and Keil (2010) and Pan, Pan and Flynn (2014) organizations may find themselves escalating commitment to a failing project. Rapid ICT changes contribute to these escalating budget overruns and project delays (Benamati & Lederer, 2011).

In African Countries there has been rapid development in the use of ICT in organizations. ICT plays a crucial role in the present knowledge based economy hence, organizations tend to rely heavily on ICT solutions in order to develop and grow their businesses (Asgarkhani & Young, 2011). The revolution in the use of ICT has profound implications for economic and social development and has pervaded every aspect of human life (Shanker, 2012). The use of ICT is widespread and regarded as an essential tool for the efficient administration of any organization and in the delivery of services to clients. Schwere (2013), states that ICTs are being integrated into procedures, structures, and products throughout businesses, governments, and communities.

Though the Information and Communication Technology (ICT) Sector has been liberalized in Kenya in the last few years which has led to a rapid growth in Technology deployment in the country (Oyelaran-Oyeyinka & Barclay, 2014), past research has established a number of factors that affect ICT acceptance decisions and attitudes (Jungwoo, 2014). This has led to the low density of ICT whereby infrastructure, congestion and costs have been significant impediments of technology usage in Kenya (Oyelaran-Oyeyinka & Barclay, 2014). Inability to identify project costs and benefits, control budget overruns and manage actual achievements against expectations can be associated with failing to formally evaluate the ICT investment. According to Todorova (2006), the importance of evaluation in improving the ICT investment management process is well established.

The insurance industry penetration rate in Kenya consists of a number of players namely; insurance companies and reinsurance companies, intermediaries and other service providers. During the last few years, the insurance industry has undergone a series of changes through financial reforms, advancement of communication and information technologies, globalization of financial services and economic development. The Insurance Industry grew by 20.3% in 2014 however the penetration of insurance in Kenya is still low at 2.92%. Investment earnings and other income increased by 6.5% from Ksh 42.76 billion to Ksh 45.55 billion. Insurance Industry total assets increased by 16.3% to Ksh 417.43 billion from Ksh 358.82 billion in 2013.

### **Statement of the Problem**

Insurance industry is key to economic growth of any Country, in Kenya the sector has been cited as major player in the attainment of Kenya Vision 2030 (World Bank, 2014). The Kenya's insurance industry

was reported to be the fastest growing industry in Africa in 2015 (AKI, 2015). Gross Direct Premium increased significantly by 24.6% to stand at KES 160.4 billion in 2015 (2014: KES 133.49 billion). The asset base for the industry increased by 17.6% from KES 366.25 billion recorded as at the end of December 2014 to KES 430.54 billion as at the end of December 2015 (IRA, 2015). Investments as well increased to stand at KES 355.01 billion in 2015 constituting 82.5% of the total industry assets (IRA, 2015). While significant gains were maintained during the year in terms of double digit premium growth, insurance penetration (which is the measure of contribution of insurance to the national economy) declined in absolute terms from 3.4% in 2014 to 2.9% in 2015 owing to rebasing of Kenya's Gross Domestic Product (GDP). With this level of penetration (2.9%), Kenya is ranked 5<sup>th</sup> in Africa after South Africa (14%), Namibia (7.2%), Mauritius (6%) and Morocco (3.2%) (Swiss Re, 2015).

Information and Communication Technology has been said to have the stakes for all insurers, particularly in relation to today's empowered consumers, both searching and buying insurance on the internet (IRA, 2015). Insurers are struggling as to whether to develop a stronger digital presence. In today's world with smartphones and tablets, customers are increasingly expecting to have instant access to services wherever, however and whenever they want (World Bank, 2014). With this in mind, insurance companies in Kenya have started exploring the growing impact of using new technological platforms to communicate with customers, cater for evolving buying behaviors and mine a rich source of customer insights (IRA, 2015). Information and Communication Technology offers insurance companies a wide range of possibilities for improving their competitiveness, (Gitonga, 2010).

Empirical and contextual studies in Kenya include; Kariuki (2004) studied information technology strategy and organizational structure relationship among companies listed at the Nairobi Stock Exchange, Owuor (2003) looked at the use of information technology as a facilitator of BPR in the vegetable oil industry. Abwao (2002) study on information technology applications in business management within insurance firms in Nairobi found out that insurance companies in Kenya have actually embraced the use of IT in carrying out their business. Gitonga (2010) conducted a study on application of information and communication technology as a strategic tool in insurance companies in Kenya, the studies did not have conclusive findings because penetration of technology was still low.

However, none of these studies sought to investigate the effect of information communication technology strategy implementation on organizational performance of insurance sector in Kenya. This study took this perspective to bridge the existing gap in order to establish the effect of information communication technology strategy implementation on the organizational performance of insurance sector in Kenya.

### **Objective of the study**

The general objective of the study was to establish the effect of information communication technology strategy implementation on performance of insurance sector in Kenya. The specific objectives were:-

- To determine the effect of ICT Investment costs on performance of insurance sector in Kenya
- To determine the effect of ICT competency on performance of insurance sector in Kenya

## **LITERATURE REVIEW**

### **Theoretical Review**

#### **Information Systems Success Theory**

Information systems success theory proposes that system quality and information quality affect users' usage of and satisfaction with information systems, further determining organizational performance (DeLone & McLean, 2014). Service quality was later incorporated into the model. The new model argues that system quality, information quality and service quality affect usage and user satisfaction, further affecting net benefits such as increased knowledge sharing and lower costs (DeLone & McLean, 2014).

Since its inception information systems success theory has been widely applied and empirically validated in the contexts of traditional information systems and electronic commerce. Wixom and Todd (2015) noted that information quality and system quality affect data warehousing software users' satisfaction, perceived usefulness, perceived ease of use and usage behavior. Zhang (2010) proposed that both system quality and information quality affect social networking users' satisfaction and sense of community. Song and Zahedi (2007) reported that system quality and information quality affect users' trust in health infomediaries. Lin and pervan (2011) noted that system quality and information quality affect virtual community user satisfaction. Chatterjee *et al.* (2009) conducted a qualitative study and found that system quality, content quality and service quality affect the usage of mobile technology in healthcare.

Better information quality increased the usage of mobile data services, whereas lower system quality decreased usage. The information system success theory was used in this study to determine the

effect of ICT Investment costs on organization performance of insurance sector in Kenya.

### Agency Cost Theory

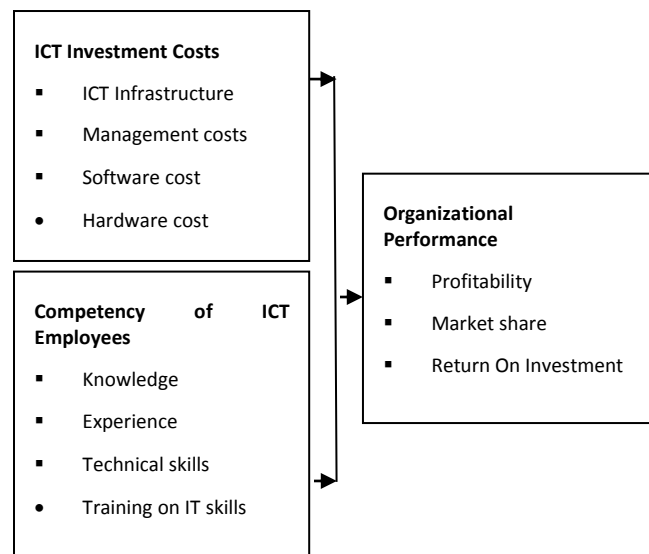
The growth in end-user computing (EUC) in organizations and its implications for the degree of centralization of the information services function have led to the need for a theory that will assist in the management of this process. The agency theory describes the development of ICT investment in organizations. The dramatic decline in the costs of hardware and the trend towards the increased power of microcomputers and minicomputers has enabled significant growth in ICT investment. This trend has implications not only for the management of EUC but also for the degree of centralization of the Information Systems (IS) function in organizations. Therefore, there has been increased focus on the organizational issues surrounding EUC, as evidenced by senior IS executives' responses in several recent surveys. The key issues that arise in an agent-theoretic analysis of the management of ICT are an identification of the economic actors and their objectives, an analysis of how these objectives result in conflict, and an analysis of the nature of the resulting organizational costs. These issues must be considered in conjunction with the microeconomic and technological characteristics of the ICT environment to determine the optimal strategies for the management of ICT resources.

Eisenhardt (1989) has articulated the usefulness of agency theory in analyzing managerial problems characterized by goal conflicts, outcome uncertainty, and unprogrammed or team-oriented tasks. Many ICT activities fit this description, and it has been suggested that a large number of organizational problems in the management of ICT can be analyzed successfully in an agency context (Gurbaxani & Kemerer 1989; Beath & Straub 1989).

The design of effective control mechanisms for IS activities is particularly difficult, since the agency relationship occurs in a dynamic, rapidly changing environment and management practices have little time to stabilize (Gurbaxani & Mendelson, 1990). An alternative approach would be transaction cost economics, an approach with similarities to agency theory in its emphasis on information and uncertainty (Williamson, 1985).

Agency theory distinguishes itself from transaction cost theory by its inclusion of the notions of risk aversion and information as a commodity. The agency cost theory was used in this study to establish the extent to which the ICT competency on organization performance of insurance sector in Kenya.

### Conceptual Framework



**Independent Variable      Dependent Variable**

**Figure 1: Conceptual framework**

### ICT Investment Cost and Performance

Information and Communication Technology (ICT) is a multi-trillion-dollar industry. A study on the elusive nature of delivering benefits from IT investment by Remenyi (2010) found that ICT investment offers potential for significant

organizational improvement and competitive advantage. However, ICT investment does not always translate into monetary rewards. Reports of project failure, budget and timescale overruns, and limited or negative returns are not uncommon. Some organizations may lack objective information regarding the benefits and costs investing in ICT (Remenyi, 2010).

Further, evaluation complexity increases as ICT becomes more integrated in organizational structures and processes and when different interconnected ICT. Projects take place simultaneously. A study by Remenyi *et al* (2007) on the effective measurement and management of ICT costs and benefits found that the difficulties associated with evaluating ICT costs and benefits are “super challenging”. Simultaneous investment in technologies from automate, informate and transformate eras makes evaluation more difficult. Accurately determining total ICT costs is often impaired by incorrect overhead allocation procedures and unclear system boundaries. Remote unanticipated effects may also arise, which decreases the chances of total costs being accounted for (Mylonopoulos *et al.*, 2014).

### **ICT Competency**

The private sector and government have a role, and can provide information about service available and when necessary improve coordination of government information on the benefits of investing in ICT, for example case studies and good-practice demonstrations to tackle market failures in information supply (UNCTAD, 2011). The report by International Telecommunication Union - ITU (2012) on Measuring the Information Society presents two authoritative benchmarking tools to monitor information society developments worldwide found that the ICT Development Index (IDI) ranks 155 countries' performance with regard to information and communication technology (ICT) infrastructure

and uptake. The ICT Price Basket (IPB) is a unique metric that tracks and compares the cost and affordability of ICT services in more than 160 countries globally. The report presents the ICT Development Index (IDI), which ranks countries' performance with regard to ICT infrastructure and investment, and the ICT Price Basket (IPB), a unique metric that tracks and compares the cost and affordability of ICT services. 2010 saw continued and almost universal growth in ICT investment. Much of this enhanced connectivity is due to the rapid uptake a 40% rise in 2011 of mobile broadband subscriptions, to the point where there are now twice as many mobile-broadband as fixed-broadband subscriptions. The surge in numbers of mobile-broadband subscriptions in developing countries has brought the Internet to a multitude of new users (ITU, 2012).

According to English (2005), every employee in the ICT firm needs to be aware of the ICT- security risks as well as the potential consequences of such security breaches which ensures confidence which in the process contributes towards more business. In the process, this will lead to positive growth and expansion of the firm in the long run. Often not enough attention is given to this human aspect and as Siponen (2012) states: “Nothing is done as long as nothing goes wrong.” and yet the cost of doing nothing can be huge to the ICT firm. Managers could play an essential role in making sure that every employee is aware of the ICT-security risks and thus improving the integrity of the ICT provider. The manager needs to understand the importance of a high quality of information in terms of completeness and collective significance (English, 2015). Bresnahan, Brynjolfsson and Hitt (2012) argue that the most important cause of computer security violations on the Internet is the lack of technical knowledge of the users which partly may be attributed to the ICT provider. Bresnahan,

Brynjolfsson and Hitt (2012) observed could affect the potential investment in ICT.

The ever changing technology and heavy investment in ICTs has resulted in increased demand for various ICT skills. In the last few decades, numerous studies have attempted to address issues related to ICT skill needs. Complexity relates to the knowledge and expertise of employees (Anandarajan, 2013). In companies where management and employees have knowledge and expertise, they are more likely to grasp innovation. The skills of both staff and management will therefore have an impact on the level to which an organization can be invest in ICT. Riddle (2010) argues that because small companies do not have the resources less is spent on training. It is also more likely that smaller companies will employ generalist rather than specialist staff thereby impacting on staff skills (Thong, 2006).

### **Organizational Performance**

Organizational performance is the measure of how good organizations do their jobs. It is the measure of how efficient and effective an organization is and how well it achieves its objectives (Attewell & Rule, 2014). It is as a measure of how well an organization achieves its own vision through the fulfillment of its set goals and objectives that may be financial and/or non- financial that is a measure of organization's actual output or results against its intended outputs. The concept of the organizational performance is based upon the idea that an organization is the voluntary association of productive assets, including human, physical, and capital resources, for achieving a shared purpose. Mbithi (2014) defines organizational performance as the achievement of high levels of performance, profitability and customer satisfaction by enhancing skills and engaging the enthusiasm of employees. The organizational performance has been conceptualized from two perspectives; financial

perspective and the non-financial perspectives. The traditional means of measuring the organizational performance was through the financial measurements only (Gitau, 2014).

The financial performance approach examines indicators such as sales growth, profit rate, return on investment, return on sales, return on equity, and earnings per share. New performance measurement frameworks that accommodate both the financial and non-financial measurements have been introduced. This includes the balanced score card, integrated performance measurement, shareholder model and the performance management framework. Some scholars have advocated for a mixture of the financial and non-financial performance measures. This mixture recommended the organizational performance to be measured through one financial and seven nonfinancial metrics namely Profitability, Market share, Productivity, Product leadership, Public responsibility, Personnel development, Employee attitudes and Balance between short-range and long-range objectives (Mwandebe, 2009)

### **Empirical Review**

Bazini (2015) did a study on ICT application in the insurance industry: its impact in customer relationship management. Primary data were collected through primary research using a decision maker survey about ICT implementation within insurance companies in Albania. The sample used for the data collection was a random one. According to Bazini (2015), the adoption of ICT use among the insurance companies is become a necessity, taking in consideration the need faster insurance operation, faster processing of customer claims and companies liabilities. Most insurance companies in Albania, now see the need to include ICTs in their business goals even though they face the challenges of formulating the right policies that should strategically position ICTs for effective service



delivery to their customer. Engagement of the qualified professional and consultants within the insurance companies, who will be responsible for the ICT use, is a very important decision to be taken in consideration by the executives and decision makers. They are aware that positioning ICT strategically, a much better perception and utilization level should take place (Bazini, 2015).

Wanjiru and Abdalla (2014) conducted a study on the effects of information communication technology adoption on procurement process in Kenya's oil industry. The purpose of this study was to map the effects of ICT adoption in procurement processes using Total Kenya limited case. The study revealed that the impact of ICT adoption on procurement processes mainly refers to time reductions and quality improvements, rather than cost reductions as reported by many authors. The old view that ICT applications are associated with cost reductions is contested in this research. The study found that company is likely to realize improvements in cycle time reductions and process quality. In terms of ICT adaptability, the study found that the company had not adopted more complicated e-business applications. From the study it is also clear that the adoption of ICT applications is not exclusively a matter of resources on the contrary, operational compatibility and the level of supply chain collaboration are two of the factors that play a determinant role in increased ICT adoption and impact assessment.

Owino, Keraro and Wanjiku (2015), did a study on factors that influence the performance of information communication technology projects in Kenya. This study sought to investigate factors that influence performance of ICT Projects in Kenya carried out in Nairobi County. The study adopted a descriptive survey design. The study population consisted of 344 ICT firms from Nairobi County and a sample size of 103 firms constituting 30 per cent

of the total population was selected through stratified sampling method. The study found out that innovation, human resource management practices, systems adopted and government policies significantly influence performance of ICT projects in Kenya. Further the study found that all the four independent variables had a positive influence on performance of ICT projects in Kenya. The findings of the study revealed that government policies, to a great extent influence performance of ICT projects in Kenya followed by human resource management practices, then innovation and finally systems adopted. The concluded that innovation, human resource management practices, systems adopted and government policies positively influence performance of ICT projects in Kenya.

Afande (2015) did a study on drivers for implementation of e-business in the insurance sector in Kenya. This study sought to examine the drivers for adoption of e- business by insurance companies in Kenya. A descriptive research design was used to undertake the study. The population from which the study was undertaken was all the companies licensed to undertake insurance business in Kenya, whose number stood at 43 as at June 2013. A representative sample of 26 insurance companies, representing 60% the whole population was selected at random, which is within the limits of the generally accepted statistical conditions. Findings of the study show that the factors influencing implementation of e-business in the insurance sector in Kenya are categorized into two - technological and managerial.

Gitonga (2010) conducted a study on application of information and communication technology as a strategic tool in insurance companies in Kenya. The study found that insurance companies practice formal strategic planning to a great extent and ICT strategy development has also taken center stage. The findings indicate that insurance

companies recognize the strategic role of ICT in their businesses and most of them have embraced it and are making it the cornerstone for achieving and sustaining competitive advantage. Although most insurance companies indicated high dependence on ICT in doing business, it should be noted the companies have not utilized ICT to the full strategic potential. It is evident from the study that insurance companies are moving towards taking full advantage of ICT capability while at the same time the ICT capability and ensuring that ICT supports the business strategy.

### RESEARCH METHODOLOGY

The study adopted a descriptive cross-sectional survey. The target population for the study comprised of all the insurance firms that operated in Kenya. As 31<sup>st</sup> December 2015, there were 50 operating insurance companies (AKI, 2015). The firms were categorized into three; Composite Insurance firms, Life Assurance firms and General insurance firms. This study was a census survey of all insurance companies in Kenya. In choosing census survey, the practicalities and cost of undertaking a census, representativeness and the nature of the survey as well as population had been considered. This study used primary and secondary data. Primary data was collected using a questionnaire. The questionnaire had both open and close-ended questions. Secondary data was obtained from published and unpublished records including industry magazines and newsletter. The researcher administered the questionnaire individually to all respondents of the study using the drop and pick later method. Before processing the responses, the collected data was prepared for statistical analysis. Coding was done on the basis of the locale of the respondents.

### DATA ANALYSIS AND INTERPRETATIONS

The study sampled 150 respondents from which 139 filled in and returned the questionnaires making a response rate of 92.6%. The study conducted a pilot study with 15 respondents to ensure reliability of the data collection instruments. The study requested the respondents to indicate the period they had worked in the organization. The study sought to find out the period worked by the respondents in their respective organizations. From the study findings, most of the respondents as shown by 48.9% of the respondents indicated a period of above 10 years, 46.8% indicated a between 7-10 years whereas 4.3% indicated 2-6 years. This implied that majority of the respondents had worked in the organization for a considerable period of time to have the knowledge of the effect of information communication technology strategy implementation on performance of the insurance sector in Kenya. The study further requested the respondents to indicate the period they had worked in the current position. From the study findings, most of the respondents 46.8% had been in their current positions for 5-18 years, 31.7% for 10-15 years, 17.3% for a period of less than 5 years whereas 4.3% of the respondent had been in their current positions for more than 15 years. The study requested the respondent to indicate their highest level of education. The study found that most of the respondents' highest level of education was masters 53.2% of the respondents, 38.1% were at bachelors level, 5.8% were at PhD level while 2.9% were at diploma. This implied that the respondents were well educated to easily understand and respond to the questions of the study.

**Effect of ICT Investment costs on performance of insurance sector in Kenya**

The study sought to find out whether ICT Investment costs affect the performance of insurance sector in Kenya.

**Table 1: Effect of ICT Investment costs on the performance of insurance sector in Kenya**

	Frequency	Percentage
Yes	139	100
<b>Total</b>	<b>139</b>	<b>100</b>

From the study findings all the respondents as shown by 100% indicated that ICT Investment costs affected the performance of insurance sector in Kenya. This implied that indeed ICT Investment costs affect the performance of insurance sector in Kenya.

The study further sought to find out the extent to which ICT Investment costs affected the performance of insurance sector in Kenya.

**Table 2: Extent to which ICT Investment costs affect the performance of insurance sector in Kenya**

Extent	frequency	Percentage
Very great extent	34	24.5
Great Extent	79	56.8
Moderate extent	21	15.1
Less extent	5	3.6
<b>Total</b>	<b>139</b>	<b>100</b>

From the study findings, majority of the respondents as shown by 56.8% indicated to a great extent, 24.5% indicated to a very great extent, 15.1% indicated to a moderate extent whereas 3.6%

indicated to a less extent. This implied that ICT Investment costs affect the performance of insurance sector in Kenya to a great extent.

**Table 3: Statement relating to the effect of ICT Investment costs on performance of insurance sector in Kenya**

**Statements**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
ICT investment offers potential for significant organizational improvement and competitive advantage	0%	1.4%	4.3%	65.5%	28.8%

ICT investment does not always translate into monetary rewards in insurance sector

2.2% 3.6% 9.4% 59.0% 25.9%

Difficulties associated with evaluating ICT costs and benefits are super challenging in the insurance sector

1.4% 5.0% 16.5% 50.4% 26.6%

Accurately determining total ICT costs is often impaired by incorrect overhead allocation procedures and unclear system boundaries.

2.9% 6.5% 13.7% 53.2% 23.7%

ICT investment cost is relatively high but improves organization performance in the long run

1.4% 2.2% 10.8% 58.3% 27.3%

From the study findings, majority of the respondents agreed that ICT investment offered potential for significant organizational improvement and competitive advantage as shown by a proportion of 65.5%, ICT investment did not always translate into monetary rewards in insurance sector as shown by a proportion of 59%, ICT investment cost was relatively high but improved organization performance in the long run as shown by a proportion of 58.3%, and that accurately determining total ICT costs was often impaired by incorrect overhead allocation procedures and unclear system boundaries as shown by proportion of 53.2. Respondents also agreed difficulties associated with evaluating ICT costs and benefits

are super challenging in the insurance sector as shown by a proportion of 50.4%. The findings agreed with Kipkurui, (2011) that insurance companies earned investment income on their investments.

The study further sought to find out how else ICT investment cost affected the performance of insurance sector in Kenya. The respondents opined that the insurance companies that invested heavily on the adoption of best ICT systems perform better since the return on investment was high in such companies. Furthermore such companies were able to reach to more customers and serve their customer better.

**Effect of ICT Competency on the performance of insurance sector in Kenya**

**Table 4: Whether ICT competency affects the performance of insurance sector in Kenya**

	Frequency	Percentage
Yes	136	97.8
No	3	2.2
<b>Total</b>	<b>139</b>	<b>100</b>

From the study findings majority of the respondents as shown by 97.8% were of the opinion that ICT competency affected the performance of insurance

sector in Kenya whereas 2.2% were of the contrary opinion. This implied that ICT competency affect the performance of insurance sector in Kenya.

**Table 5: Extent which ICT competency affects the performance of insurance sector in Kenya**

Extent	frequency	Percentage
Very great extent	28	20.1

Great Extent	70	50.4
Moderate extent	27	19.4
Less extent	14	10.1
<b>Total</b>	<b>139</b>	<b>100</b>

From the study findings, majority of the respondents as shown by 50.4% indicated to a great extent, 20.1% indicated to a very great extent, 19.4% indicated to a moderate extent whereas

10.1% indicated to a less extent. This implied that ICT competency affected the performance of insurance sector in Kenya to a great extent.

**Table 6: Statement relating to the effect of ICT competency on performance of insurance sector in Kenya**

**Statements**

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
In the insurance sector employees are equipped with the right knowledge on information technology	0%	0.0%	2.2%	68.3%	29.5%
In the insurance sector employees have experience on application of various ICT technologies	0.0%	0.7%	4.3%	61.2%	33.8%
In the insurance sector employees have technical skills on ICT	1.4%	2.9%	3.6%	64.7%	27.3%
In the insurance sectors employees attend trainings to acquire IT skills	0.0%	0.7%	7.9%	60.4%	30.9%
The ever changing technology and heavy investment in ICTs has resulted in increased demand for various ICT skills	1.4%	2.2%	10.8%	58.3%	27.3%
Companies where management and employees have knowledge and expertise are more likely to grasp innovation	0%	0.0%	2.2%	68.3%	29.5%
Skills of both staff and management have an impact on the level to which an organization can invest in ICT	0.0%	0.7%	4.3%	61.2%	33.8%

From the study findings majority of the respondents as shown by 68.3% of the respondents agreed that in the insurance sector employees had experience on application of various ICT technologies and that companies where management and employees had knowledge and expertise were more likely to grasp innovation. 64.7% agreed that in the insurance sector employees had technical skills on ICT, 61.2% agreed that in the insurance sector employees had experience on application of various ICT

technologies and that Skills of both staff and management had an impact on the level to which an organization could invest in ICT in each case. 60.4% of the respondents agreed that in the insurance sectors employees attended trainings to acquire IT skills while 58.3% agreed that the ever changing technology and heavy investment in ICTs had resulted in increased demand for various ICT skills.

The study further sought to find out how else ICT

competency affected the performance of insurance sector in Kenya. From the findings respondents indicated that the employees in the insurance

organizations had ICT skills and competency. Employees were trained on the ICT systems adopted by the organizations.

### Performance

**Table 7: Annual profits in Kenyan Shillings**

Annual profits in Kenyan Shillings (Millions)	2011	2012	2013	2014	2015
below 300M	11(7.91)	8(5.76)	5(3.6)	5(3.6)	4(2.88)
300M- 500M	27(19.42)	25(17.99)	24(17.27)	23(16.55)	21(15.11)
500M-700M	40(28.78)	46(33.09)	45(32.87)	47(33.82)	48(34.54)
700M-1B	48(34.53)	44(31.65)	52(37.41)	48(34.53)	47(33.81)
Over 1B	13(9.35)	16(11.51)	16(37.41)	17(34.53)	19(13.67)
<b>Total</b>	<b>139</b>	<b>139</b>	<b>139</b>	<b>139</b>	<b>139</b>

From the study findings, 7.9% of the insurance firms made a profit of below 300m in 2011 while only 2.9% of the insurance made the same profit in 2015. The number of insurance firms making which made a profit of 300-500m reduced from 19.4% in 2011 to 15.1% in 2015. Most of the firms made more profit and thus the number of the firms which

made over 500m increased from 2011 to 2015. In 2011 only 9.35% of the firms made a profit of over 1B while in 2015 there were 13.67% of the firms making over 1B profit. This showed that the profitability of the firms increased over the years from 2011 to 2015.

**Table 8: Return on Investment**

Return On Investment	2011	2012	2013	2014	2015
Below 3	39(28.1)	36(25.9)	37(26.6)	32(23)	30(21.6)
3-6	70(50.4)	67(48.2)	52(37.4)	55(39.6)	45(32.4)
7 and above	30(21.6)	36(25.9)	50(36)	52(37.4)	64(46)
<b>Total</b>	<b>139</b>	<b>139</b>	<b>139</b>	<b>139</b>	<b>139</b>

From the study findings, the number of firms with a return on assets below 3 reduced from 28.1% in 2011 to 21.6% in 2015. This implied that some firms made higher return on investments over the years from 2011 to 2015. In 2011 the number of firms

making a return on investment of above 7 stood at 21.6% while in 2015 the number increased to 46%. This showed that the insurance firms increased their return on investment over the years from 2011 to 2015.

**Table 9: Market share in percentage**

Market share in percentage	2011	2012	2013	2014	2015
Below 5	33.8	25.9	30.2	25.9	18.7
6-10	18.0	23.7	20.9	21.6	25.9

11 and above	48.2	50.4	48.9	52.5	55.4
<b>Total</b>	<b>139</b>	<b>139</b>	<b>139</b>	<b>139</b>	<b>139</b>

On market share, the study found that 33.8% of the firms had a market share of below 5 in 2011 while only 18% of the firms had their same market share in 2015. This implied that several firms had increased their market share to above 5 over the

years from 2011 to 2015. In 2011 48.2% of the firms had a market share of 11 and above which increased over the years to 55.4% in 2015 implying that the insurance companies gained more market over the years.

**Table 10: Premium**

Premium	2011	2012	2013	2014	2015
Below 10 B	55(39.6)	50(36)	52(37.4)	46(33.1)	37(26.6)
11- 15B	51(36.7)	45(32.4)	46(33.1)	31(22.3)	29(20.9)
Over 15B	33(23.7)	44(31.7)	41(29.5)	62(44.6)	73(52.5)
<b>Total</b>	<b>139</b>	<b>139</b>	<b>139</b>	<b>139</b>	<b>139</b>

From the study findings, 39.6% of the insurance firms had a premium of below 10b in 2011 while in 2015 the number had reduced to 26.6% of the firms. This implies that many of the insurance firms increased their premiums to above 10B over the years. In 2011 only 23.7% of the insurance firms had a premium of over 15B while in 2015 52.5% of the insurance firms had a premium of over 15B. This implies that the insurance sector had been improving its performance over the years. The improvement in performance may be attributed to information communication technology strategy implementation in the insurance sector as the study found that investment cost and ICT competency affected the performance of insurance sector.

**SUMMARY, CONCLUSION AND RECOMMENDATION**

The study found that ICT investment offered potential for significant organizational improvement

and competitive advantages and ICT investment cost was relatively high but improved organization performance in the long run. The findings concurred with the findings of Remenyi (2010) who found that ICT investment provides opportunities for an organization to grow and create its competitive advantage. The findings as well are similar to those of Kipkurui, (2011) who established that insurance companies earn investment income on their investments.

The study also found that the insurance companies that invested heavily on the adoption of best ICT systems performed better since the return on investment was high in such organizations. Such companies were able to reach to more customers and serve their customer better. Similarly Bazini (2015) opine that ICT application in the insurance industry fastened the insurance operations, processing of customer claims and companies liabilities.

The study found that in the insurance sector employees had experience on application of various ICT technologies and that companies where management and employees had knowledge and expertise were more likely to grasp innovation. Similarly, Anandarajan, (2013) suggest that innovation is more likely to occur in companies where management and employees have knowledge and expertise in ICT.

The study further found that employees in the insurance sector had technical skills on ICT and have experience on application of various ICT technologies. Concurrently Bazini (2015) opines that engagement of the qualified professional and consultants within the insurance companies, who will be responsible for the ICT use, is very important for organizations performance. The ever changing technology and heavy investment in ICTs had resulted in increased demand for various ICT skills a position held by Anandarajan, (2013) that technology is changing and therefore creating demand for the various ICT skills.

### **Conclusions**

The study concluded that ICT Investment costs influence the performance of insurance sector in Kenya. ICT investment offered potential for significant organizational improvement and competitive advantage. ICT investment cost was relatively high but improves organization performance in the long run while ICT investment did not always translated into monetary rewards in insurance sector. The difficulties associated with evaluating ICT costs and benefits are super challenging in the insurance sector.

The study also concluded that ICT competency affect performance of insurance sector in Kenya significantly. The insurance sector employees had

experience on application of various ICT technologies and are equipped with the right knowledge on information technology. In the insurance sector employees attended trainings to acquire IT skills and that companies where management and employees had knowledge and expertise were more likely to grasp innovation.

### **Recommendations**

ICT investment offered potential for significant organizational improvement and competitive advantage. Insurance companies should thus include considerable amount of capital in their budget for ICT investment. Despite the fact that ICT investment does not always translate into monetary rewards in insurance sector the insurance companies should invest more in ICT so as to improve the organizations performance in the long run. The study established that in the insurance sector employees have technical skills on ICT.

### **Suggestions for further studies**

The study focused on establishing the effect of information communication technology strategy implementation on performance of insurance sector in Kenya. The study has found that that information communication technology strategy implementation affects performance of insurance sector in Kenya. The study showed that there were difficulties associated with evaluating ICT costs and benefits in the insurance sector. This showed that despite ICT playing a major role in improving the performance of the insurance sector there are challenges experience in the implementation of the ICT. A further study should be carried out to determine the challenges that are faced by the insurance companies in the implementation of the information communication technology strategy.



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