

**CLOUD DATA HOSTING AND ORGANIZATIONAL PERFORMANCE
AMONG INSURANCE FIRMS IN KENYA**

BY

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DECLARATION

This project is my original work and has not been submitted for any other award in any university.

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This research project has been submitted with my approval as the university supervisor.

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DEDICATION

This research is dedicated to my mother, for her endless encouragement and unfailing support.

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ACRONYMS AND ABBREVIATIONS

CAGR	- Compound Annual Growth rate
CIO	- Chief Information Officer
CPU	- Central Processing Unit
CSA	- Cloud Security Alliance
ERP	- Enterprise Resource Planning
GDP	- Gross Domestic Profit
GRC	- Governance, Risk Management, and Compliance
IaaS	- Infrastructure as a Service
ICT	- Information and Communications Technology
IT	- Information Technology
IRA	- Insurance Regulatory Authority
ITIL	- Information Technology Infrastructure Library
NIST	- National Institute of Standards and Technology
PaaS	- Platform as a Service
RAM	- Random Access Memory
SLA	- Service Level Agreement

ABSTRACT

This research focused on cloud data hosting and organization performance among insurance firms in Kenya. The research was directed by four objectives, to establish the extent to which insurance firms in Kenya have hosted data in the cloud, to establish the drivers for adoption of cloud data hosting by the insurance firms, to establish the opportunities for the insurance firms from cloud data hosting and to determine the relationship between the extent of cloud data hosting and organization performance among insurance firms in Kenya. Descriptive research was adopted targeting all insurance firms in Kenya. The respondents were ICT managers, assistant managers, and other IT staff in the firm. The mode of data collection was questionnaire forms. The data was analysed using descriptive data and regression analysis and outcome presented by use of tables. The study found that to a great extent big data analytics was adopted by the insurance firms. It was also established that the hosted cloud solutions were managed by both third party provider and the insurance firm. The study further found that to a great extent cloud data hosting is relevant to the insurance firms. The study revealed that competitive advantage has been realized by the firms through cloud data hosting. The study concluded that big data analytics is hosted in the cloud to a great extent followed by data recovery. With 5% level significance level and 95% level of confidence, data recovery, data storage, email services, web services, applications, backup, and big data analytics were all significant in determining organizational performance amongst insurance establishments in Kenya. In conclusion, the study suggested that in an effort to promote cloud data hosting amongst firms, cloud hosting providers should avail successful case scenarios and statistics to help the firms appreciate the potential benefits.

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

With the industry revolution and ever-changing business requirements in the Kenyan insurance sector, firms are being inspired to implement the arising technologies that will help in improving their business functions in order to improve on efficiency and subsequently expand their customer base (Hayes, 2008). Advancements in ICT applications are changing the ways business functions currently operate. Organizations are being driven to adopt the developing technologies that are disrupting the traditional ways of working, however they are faced with the dilemma of overhauling their network to keep up with the rapid technological changes due to constrained resources.

Cloud hosting presents several solutions for organizations that want to keep up with the latest technology advancements at affordable and manageable costs. Since data is the most treasured asset for organizations, there have been fears of storing data in the cloud. Various studies conducted have revealed that security measures have been tightened in the cloud ensuring customer's hosted data is well protected (Andrei, 2009). Cloud hosting entails outsourcing a firm's computing and storage resources to a cloud hosting provider (Erl, Mahmood & Puttini, 2013). Cloud data hosting includes data storage, back up and recovery; web hosting, email services, delivering of software on demand, and data analysis.

According to various reports, Insurance firms have been observed to be slow in adopting new technologies (Infotech, 2017). The current market is facing stiff competition forcing the players to seek for ways that can improve on their market share and gain a competitive edge. Insurance firms in Kenya are embracing current technologies to meet the changing requirements of customers such as customized products to meet specific needs. Cloud data hosting offers a platform that can help insurance firms to keep up with the progressive changes and demands of customers while making profits through efficiency and improved productivity (Infotech, 2017).

1.1.1 Cloud Data Hosting

Cloud hosting offers an environment where multiple organizations share resources and data may be geographically distributed across regions in different data centers. Since data is the most valued organizational asset it is necessary to ensure that its integrity is maintained (Michael, 2009). Cloud data hosting enables reliability of data by ensuring data is available on virtual instances which pull their computing resources from an extensive underlying infrastructure, rather than a single instance on a physical server (CSA, 2011).

Cloud data hosting includes data recovery which refers to the methods and procedures used to restore data that has been corrupted or lost. Email service which is the primary mode of communication for most organizations. Mobility in the current workspace allows workers to access emails, calendars, documents and contacts while on the move (Michael, 2009). Cloud email services such as Microsoft Exchange O365 allows collaboration and knowledge sharing among teams. PanTerra Networks offers free built-

in analytics and reporting tools in addition to email services thereby helping firms to get useful timely reports that will help with decision making. Website hosting enables the use of several clustered servers, implying a website uses the virtual resources of several servers to accommodate all requirements of hosting a website. Data storage is whereby data is stored on remote servers and is made accessible through the internet.

Software as a service on demand such as ERP and CRM enables insurance firms to drive efficiency and growth as it allows users to access their business critical applications at any time in any location and payment is on monthly lease with no huge upfront costs (Michael, 2009). Big Data analytics in the cloud has eliminated the need for data warehouses, investments in powerful servers to store the massive data and hiring of experts to analyze the data which may be out of date. It has enabled firms to maintain low IT costs whereas increasing scalability and flexibility (Shipley, 2011).

1.1.2 Drivers of Cloud Data Hosting

Cloud data hosting has been driven by the support from senior management who are seeking for better ways of accomplishing the organizational goals and to keep up with the stiff competition facing the industry. Cloud data hosting has offered benefits such as reduced operational costs with pay per use models, and scalability. With ease of scalability organizations can accommodate increased transaction volumes requiring more storage space. Growing demand for real time access to information by both employees and customers has driven organizations to embrace cloud data hosting (Gangwar, 2017).

Availability of cloud data hosting solutions has increased the level of confidence of users who can access the IT systems at any time at their convenience thereby saving time while

processing transactions. The need to have data backup has also led firms to seek for reliable methods to achieve this as most traditional IT solutions have been reported to be unreliable (Michael, 2009).

1.1.3 Opportunities of Cloud Data Hosting

The high demand for bandwidth to handle the massive volumes of data and ensure optimal applications performance has made organizations to question the cost saving aspect of cloud services. However with the availability of cheap internet access by local service providers, insurance firms can get sufficient bandwidth at affordable costs (Akhusama, 2015). Cloud data hosting presents many opportunities for today's business and offers customers a variety of cloud solutions to choose from such as Big data analytics, data security, business agility, scalability and flexibility (Hayes, 2008).

Big data analytics can offer helpful market insights, which will lead to increased market share and growth. This will help firms in realizing competitive advantage. Cloud solutions offer stable IT systems in comparison to the legacy systems which are prone to failures due to outdated firmware or malfunctioning issues, as well as training opportunities offered by the service providers on industrial trends hence creating more awareness among consumers. This opens avenues for firms to support innovative ventures (Sosinky, 2011).

1.1.4 Organizational Performance

According to Cherrington (1989) the definition of organizational performance is a perception of a firm's accomplishment as well as a sign of the organizational behavior

that it is running effectively to achieve its objectives productively. Adam (1994) explains that organizational performance is profoundly reliant on the quality of employee's performance. He further stated that to achieve superior organizational performance requires to have consistent experience with current knowledge and skills, that will help the organizations to stay up-to-date with the innovations trending and, in the end, improve the performance of the organization (Adam, 1994).

Cloud data hosting has offered fundamental contribution to growing competition among organizations and has helped in the restoration of some economies that had experienced severe downturns. A report by Aghion and Griffith (2005), revealed a positive association between ICT innovations implementation and increased competition. The introduction of cloud computing has enabled firms from all industries to cut down on fixed costs in IT and infrastructure. Cloud hosting has helped organizations run their businesses better with improved efficiency, accurate reporting and better customer and supplier relationships. With these positive results in business profits, quality of service, business agility, resource management and visibility have been realized (Gangwar, 2017).

1.1.5 Insurance Companies in Kenya

Insurance companies are financial institutions that provide and sell premiums. They pool risks among massive policy holders. Premiums are founded on the possibility of a specific occurrence and the average financial loss related to the occurrence. Traditionally the work is normally done by actuarial experts employed by the firm by use of statistical methods to scrutinize past claims. In Kenya the insurance organizations are regulated by the Insurance Regulatory Authority which is a legal government entity recognized under

the Insurance Act to standardize, guide and develop the insurance industry. According to regulator there are four re-insurance companies and fifty-five registered insurance firms in Kenya (Insurance Regulatory Authority, Jan - March 2018). According to a report by AIB Capital (2018), the insurance industry recorded a 6.6% growth in gross premiums written to KES 207.68 billion in 2017 from KES 194.74 billion in 2016. The report also shows that the market has seen an upward trajectory with a five-year CAGR of 10%. The report further states that the insurance penetration has remained low standing at 2.8% in 2017 measured as gross premiums as a percentage of GDP, and penetration is expected to remain flat in 2018.

Insurance firms have positively contributed to the development of the nation through various jobs creation. Insurance products have given people the opportunity to invest in the local market thereby encouraging other foreign investors to invest in Kenya (Ayishashe, 2015). Some of the challenges facing the insurance industry according to the report by AIB includes fraud and stiff competition that has led to product pricing undercut. With the stiff competition faced and legacy ICT systems in place, many insurance firms are struggling with harsh economic times. The legacy systems experience frequent failures leading to numerous outages, with lean inhouse IT teams maintaining the clients, employees and suppliers' databases is cumbersome, delays with processing claims and reports attributed to slow and poor performing systems (Sosinky, 2011).

1.2 Statement of the Problem

There has been an upward trend towards cloud computing and cloud data hosting adoption. Cloud data hosting has become a norm for most enterprises. Several

international scholars have studied and provided valuable findings on the guidelines in the field of cloud computing. Gangwar (2017), explored cloud computing usage and its effect on the performance of organizations amongst manufacturing companies in India, whose outcome indicated that business, people and technological assets, organizational culture, regulatory and supplier support are important factors of cloud hosting usage, with the size of the firm moderating the actual usage and performance.

Chinyao, Ychsueh, and Mingchang (2011), studied factors that affect cloud computing adoption by high-tech companies in Taiwan, of which results indicated that senior management support, the size of the firm, competition, and advantages to the firm had an effect on cloud computing adoption rate. Another study by Benlian and Hess (2011), to investigate the challenges that hinder cloud adoption revealed that security was the major concern that slowed down the uptake of cloud solutions. The studies were however done in different context hence findings may not be applicable to Kenya.

Insurance companies in Kenya are currently facing stiff competition with challenges seen in use of legacy ICT systems which slow down performance of employees. Security breaches with the legacy systems in place have brought fear of data safety given the sensitive nature of records held by insurance firms. These companies need ICT advancements for enhanced organizational performance. To address these challenges, a report by Ernst and Young (2016) in conjunction with Oxford Economics indicates that insurers who will take advantage of technologies such as cloud computing will be best suited to lead the market in terms of offering revolutionary products. These innovations offer high availability of systems resulting to timely and accurate data processing and

reporting. In Kenya, the insurance industry is revolutionizing through ICT and digitization as the consumer behaviors keep changing. They can achieve this through Cloud data hosting to enhance organization performance. A study by Mungai (2012) revealed Kenyan financial establishments have not engaged a lot in cloud computing hence suggested more studies should be undertaken on the risks associated with cloud adoption.

A survey by Moturi (2016), on the implementation of cloud computing in Kenya by insurance companies found out that 94% of the 33 companies surveyed revealed that security was a major factor affecting cloud uptake. The more assured organizations are of the safety and integrity of their data the higher the rate of adoption of the service is bound to increase. A study on cloud computing adoption and organization performance among SMEs in Nairobi done by Wangeci (2017) revealed that enterprises that adopted cloud computing realized improved organizational performance.

There are knowledge gaps in previous studies related to Cloud Data Hosting in Kenya because the studies lack a guideline that insurance firms could adopt in implementing cloud data hosting. Minimal research has been carried out on the extent of cloud data hosting and organization performance in the insurance industry. This research focused on Cloud Data Hosting and Organization Performance among insurance firms. It addressed the following questions. What is the extent of Cloud Data Hosting ? What are the drivers of Cloud Data Hosting adoption? What are the opportunities from Cloud Data Hosting? What is the relationship between Cloud Data Hosting and Organization Performance?

1.3 Research Objectives

- a) To establish the extent to which insurance firms in Kenya have hosted data in the cloud.
- b) To establish drivers for adoption of cloud data hosting by insurance firms in Kenya.
- c) To establish the opportunities for insurance firms in Kenya from cloud data hosting.
- d) To determine the relationship between the extent of cloud data hosting and organization performance among Kenya insurance firms.

1.4 Value of the Study

The usefulness of the research is that , it shall be a relevant source of information for all local insurance companies in relation to improving their attitude towards Cloud Data Hosting hence encouraging them to adopt the solution. The study will be of value to the Cloud Hosting Providers to be able to enlighten customers as well as maintain superior customer service. The results of the survey shall be of use to the Government and administration bodies such as Communications Authority to recognize barriers of Cloud Data hosting and the relationship between Cloud Data hosting and Organization performance that will help in formulating suitable regulations to enhance technology.

The outcomes of this study will also assist the insurance regulator to adopt a proper policy and legislative procedures that will help with Cloud Data Hosting adoption. The findings in this project will add on to the literature of Cloud Data Hosting and Organization Performance which can act as a reference for other scholars and higher

learning institutions. This study will also be benefit investors engaging in cloud services as it may assist in determining and identifying existing gaps that need further exploration.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section delves into accessible literature regarding Cloud Data Hosting with summary of the results, recommendations and theories suggested from previous research conducted in the field of cloud computing and cloud data hosting.

2.2 Theoretical Literature Review

This part discusses the theoretical foundation on extent of cloud data hosting and organization performance.

2.2.1 Technology Acceptance Model

Technology Acceptance Model (TAM) represents how users embrace technology. TAM illustrates how users will react to new technology based on the systems Perceived Usefulness and Perceived Ease of Use. Davies (1989), defines perceived usefulness as the point to which someone believes that utilizing a specific system or tool will boost their performance in carrying out an activity. Whereas Perceived ease-of-use is the level which someone believes that making use of a specific system shall free or reduce their effort (Davies, 1989). Perceived ease of use assesses the effort someone has to apply in utilizing a system. This theory is relevant in explaining the extent to which Insurance firms in Kenya have adopted Cloud Data Hosting which is the first objective of the study.

2.2.2 Unified Theory of Acceptance and Use of Technology

Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh (2000), and others illustrates a user's intention to utilize an information system and the following practice. The theory uses four concepts: performance expectancy, effort expectancy, social influence, and facilitating conditions. Performance expectancy, effort expectancy and social influence are direct determinants of intention to use and behavior whereas facilitating condition is a direct determinant of the behavior of the user. Gender, age, experience, and willingness of use are speculated to moderate the impact of the four constructs on the intention to use and behavior. Perceived usefulness can be defined as the extent to which a staff member working for an insurance firm believes using ICT systems will boost the profit maximization and level of customer satisfaction (extent of cloud data data hosting).

2.2.3 Theory of Competitive Advantage

Porter's theory contributes in demonstrating the competitive advantage that the adoption of Cloud Data Hosting offers to the companies that embrace it. Porter (1985), demonstrates the competitiveness as a determinant of forces including the bargaining power of consumers, suppliers bargaining power, threat of substitute products and new entrants. Adoption of Cloud Data Hosting by insurance companies will help them achieve competitive edge through better service provisioning to clients, improved relationships with suppliers resulting from efficiency, reduced operating costs through better utilization of resources and accuracy in data processing and reporting (Laforet, 1999).

All insurance firms seek to be attractive in the market as competition becomes stiffer. The competitive strategy plays a big role in helping these firms to reposition in the market place (Adam, 1994). Cloud data hosting will help insurance firms gain a competitive edge through improved service offering to customers, better relationships with suppliers because of high efficiency, reduced operating costs. All these come about through better utilization of resources and accuracy in data processing and reporting.

2.2.4 Transaction Costs Economic (TCE) Theory

Transaction Costs Economic theory guides organizations in making decisions on which operations they should outsource and subsequently plan to implement to the organizational changes that will arise from outsourcing some of the operations. TCE will help insurance firms in analyzing and selecting outsourcing contractors (Cloud Hosting providers) that will offer value for their firm (Varun Grover, 1996). By outsourcing some business operations, the insurance firms will be able to focus on the core business functions that will drive the firm towards achieving its objectives and goals (Adam, 1994).

2.3 Cloud Data Hosting

Cloud Data Hosting provides an on-demand model and changes the legacy I.T resources with a more collaborative framework (Hayes, 2008). Cloud hosting solutions provide a means for supporting several products with common shared assets (Omwansa, 2013). There exist three service models in the cloud computing architecture, including Software as a service (SaaS), Platform as a Service (Paas), and Infrastructure as a service (IaaS). Software as a Service (SaaS) model enables consumers to consume the providers

applications for example email, instant messaging, CRM and ERP such as Salesforce, Dropbox, DocuSign, SAP, Microsoft Exchange O365, google (Erl et al, 2013). SaaS which is currently the most adopted model is a software delivery concept where software and associated data are hosted centrally on the cloud. Service providers such as MTN, LTK, and Safaricom have partnered with credible vendors to offer cloud solutions to the local insurance companies.

Platform as a Service (PaaS) enables the consumers to deploy their applications on the cloud infrastructure thereby giving them control of the applications but they do not manage the underlying infrastructure such as network, servers nor the storage for example, Google App Engine and Red Hat. Infrastructure as a Service (IaaS) model, is whereby consumers are given access to the infrastructure to provision and deploy operating systems and applications for instance Amazon web services, Microsoft Azure (Erl et al, 2013).

Previous studies (Thong, 1999) show that when organizations receive some benefit from a new technology, then the chance of embracing the technology will increase. Cloud data hosting provide organizations with several benefits such as scalability, on-demand model, flexibility, low setup costs and pay per use. Firms experience prompt access to resources accessible via the internet with very little investments at their convenience. The cloud hosting requirements for a business depends on the organization's needs and existing structure.

Data recovery ensures that organizational operations do not come to halt as a result of data corruption, or lost data. Cloud email services such as Microsoft Exchange O365

allows collaboration and knowledge sharing among teams, PanTerra Networks offers free built-in analytics and reporting tools in addition to the email service as a value add. With the right cloud hosting provider, insurance firms can achieve strong brand awareness; more customer acquisitions and long term customer retention. According to a study by International Data Corporation (2014), unexpected outages from application failures such as email can have a devastating effect on both brand reputation and revenue. A business can lose a significant number of clients as well as damage customer relationships as a result of poor email handling service.

Dedicated hosting is relatively expensive and requires IT skilled experts to manage. Cloud web hosting enables an organization to access resources they need as they grow (scalability) as well as increase available resources when needed through on-demand use. It also allows firms to pay only what they use. Insurance firms can benefit from these advantages of cloud web hosting. Hewlett Packard (HP) defines data storage as the use of recording media to retain data using computers or other devices, with the most common form being file storage. Examples include amazons AWS and Microsoft Azure. This ensures that information is always available when needed (Low, Chen, & Wu, 2011). Big data analytics refers to variety of data that can be computationally analyzed to reveal trends and patterns that can be useful in the decision making process by senior management team of firms (Khan, 2018).

Cloud Applications such as ERP offers more than just cost savings by paying for only the computing resources needed, and a fixed monthly fee. Deployment is very fast and there's flexibility to adjust the amount of computing or storage needs as required. There's

also some level of confidence knowing that organizations data is backed up and there's a Disaster Recovery plan. These advantages can give insurance firms a competitive edge (Palos-Sanchez, 2017).

2.4 Drivers of Cloud Data Hosting

The adoption of cloud data hosting in the insurance industries has been advancing slowly. Microsoft SharePoint; Salesforce.com and google Big Query are the mostly utilized cloud solutions in the insurance company, according to a report by Accenture (2012). This has been driven by the harsh economic times as well as the demanding and competitive market (Misra, 2011). Previous findings (Brendl, 2010) have revealed that given the possible success of cloud hosting to save organizations budget and grow revenue, CIOs are seeking for opportunities to migrate their in-house systems and resources to external cloud because of the mentioned benefits like IT maintenance costs and resource management costs reduction.

Cloud hosting has offered insurance companies many advantages such as low costs, pay per use models, and scalability. Key business functions can be hosted off-site with a remote technology team on standby to service them. Managed resources have also shown reduced operating costs for these firms. Support from the executive team in the organization is necessary in helping to overcome any internal barriers that may exist, such as resistance to change (Misra, 2011). Top management play a key role in cloud computing deployment which comprises of resources integration, activities and re-engineering of some organizational procedures. Their support ensures a seamless transition with all the necessary resources well-coordinated. External forces can directly

influence a firm's decision .Many insurance companies are embracing cloud hosting to keep up with their competitor's move in adopting similar technologies. The external surrounding will have a direct influence whether an organization will adopt emerging technologies. Laforet (1999), emphasized that competitive pressure is a strong motivation and adoption driver.

Companies that have embraced cloud hosting solutions have reported improved operational efficiencies thereby increased market share (Low et al, 2011). Financial institutions including insurance companies have embraced cloud computing mostly to improve their business agility, elevate their business operations, save on resources both computing and manpower costs as well as streamline and hasten the provisioning of new infrastructure resources. Insurance companies handle very sensitive and personal client records. These companies are becoming more confident and trusting third party vendors to hosting their applications, however with emphasis on appropriate security measures to ensure that their data is not exposed (Betcher, 2010).

Different sources have outlined how organizations can streamline their processes and cut down costs by adopting cloud hosting services (Kim, 2016). Some of the benefits of cloud offerings as indicated by Klein (2009), include Cost reduction by enhancing the use of available computing resources resulting to efficiency and consumption of the whole shared infrastructure. Reduced Capex by bringing better cash flows through the elimination of capital expense related with building the server infrastructure. Speedy projects deployment since servers can be set up and destroyed in less time. Scalability is easy as applications expand, storage, RAM and CPU capacity can be upgraded as required. Reduced maintenance costs driven by minimal hardware and outsourced, shared

IT personnel from the service provider. Resiliency & redundancy through auto failover between hardware platforms and DR services in the event the primary Data center is down (Sosinky, 2011).

Through cloud data hosting, firms can achieve greater operational efficiencies, more accuracy in collection and processing of data and better understanding of the market (Low et al, 2011). Stiff competition has drove many organizations to sub-contract their IT resources to improve on effectiveness and gain lower prices offered, as they seek to expand their market portion.

2.5 Opportunities of Cloud Data Hosting

The desire to shift to cloud hosting has been on the top discussions for many organizations. Many studies conducted within cloud data hosting have explored key issues such as security measures considered before choosing a service provider to host data in the cloud; the different categories of data hosted in the cloud; the data security models in use in the insurance industry in Kenya; and the challenges encountered while securing data in the cloud (Akhusama, 2015). The regional insurance market is faced with challenges such as low insurance penetration and increased competition from the arrival of new entrants in the market (Yan, 2010). Most of these companies are trying to leverage the best systems to be able to differentiate themselves in their service delivery without investing in costly infrastructure, upgrading on-premise software or training new staff (Winkler, 2011). This will ensure competitive advantage is realized. Training opportunities on industrial trends being offered by the service providers has shown an

upward trend in adopting Cloud Data Hosting. This also has encouraged firms to support innovative ventures.

Service providers have worked to ensure data security. They are more aware of their responsibilities when it comes to confidentiality, privacy, integrity and availability of data and information systems. With security assurance and high bandwidth availability, firms are embracing opportunities in cloud such as big data analytics. Big data refers to variety of data that can be computationally analyzed to reveal trends and patterns that can be useful in the decision making process by senior management team of firms (Khan, 2018). Cloud data hosting has enabled business agility, improved data security, scalability and flexibility offering insurance firms opportunities to increase on efficiency and effectiveness. This is seen through new ways of working which have made work easier and variety of cloud solutions available to choose from (BDCLoud, 2014).

2.6 Cloud Data Hosting Extent and Organization Performance

The revolution associated with cloud hosting has enabled insurance firms to avoid huge up-front costs currently associated with hardware and software equipment (Dubey, 2007). The introduction of cloud computing has considerably reduced the setup costs and production thereby a positive impact on entry and competition across insurance firms. According to Griffith (2005), there is a positive association between ICT innovations adoption and increase in competition. Griffith and Aghion revealed that with the introduction of cloud computing firms from all industries have managed to reduce fixed costs in ICT department, achieve high systems availability, improved and accurate data

processing and reporting, enhanced visibility, better resource management, and increased profits.

A report by Gartner Research Circle conducted in September 2013 revealed the willingness of some firms to move their core application systems to the cloud. In this regard, insurance firms in Kenya that have not adopted any cloud solution are advised to adopt cloud data hosting as a paradigm that will add value to their business operations through flexibility and scalability that will contribute to costs reduction and enhance the company's competitive advantages (Gangwar, 2017). These benefits help organizations to gain business growth as they become more productive and innovative helping them to shift focus to their core business (Bois, 2010). Cloud Data Hosting is a major trend in the business industry for organizations that want to improve their performance. Despite the survey reports conducted by different scholars regarding the benefits of cloud hosting, the uptake of Cloud Data Hosting among insurance companies is still low with regulations and legislation issues, data privacy concerns, lack of awareness on IT innovations within organizations and resistance to change being the major concerns (Low et al , 2011).

2.7 Conceptual Model

The conceptual model focuses on the various variables and their dependencies. Miles and Huberman (1994) explain a conceptual model as a graphical or written produce which describe key factors, impressions or variables that will be studied and the supposed relationships amongst the variables, either in a diagrammatic or narrative form. In this study the dependent variable is Organizational Performance whereas the independent variables are Cloud data Hosting Solutions as shown in Figure 2.1.

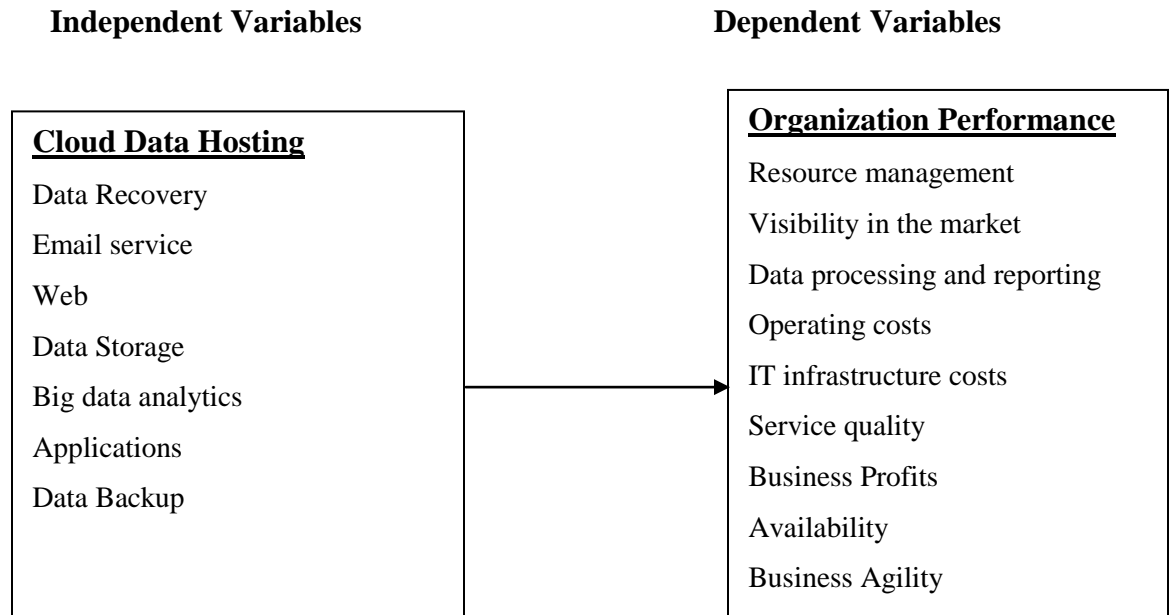


Figure 2.1. Interaction between the variables of research.

2.8 Summary and Research Gaps

Discussions from the literature above indicate that each has its limitations in relation to the topic of study. The information available in the Kenyan academia on the extent of Cloud Data Hosting in adding value to insurance firm’s performance is quite minimal. In this regard, most insurance firms adopting cloud solutions fail to understand the drivers and its opportunities making it difficult to take full advantage of the offerings. If more information is made available, insurance firms will understand how cloud data hosting will add strategic and technical value to the organization.

This research paper sought to demonstrate how Cloud Data Hosting can add value to the insurance firms in Kenya. As per the objectives of the research which are to establish the extent of cloud data hosting, studies show that cloud data hosting is progressively gaining

popularity and solutions such as cloud email, web hosting, disaster recovery, data storage, applications, big data analytics and data backup benefits are the drivers of cloud data hosting adoption. The study revealed opportunities of cloud data hosting are competitive advantage, Stability of IT systems, training opportunities on industrial trends being offered, new ways of working have made work easier, there are a variety of cloud solutions available to choose from, there is enhanced data security, helpful market insights realized through analytics and increased market share and growth.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology gives an overview of research design used, the target population, data collection and analysis.

3.2 Research Design

The research used descriptive research design, which is an information gathering method aimed at defining a behavior held by a given population (Yin, 2009). The method was effective in collecting data from a large sample at a cheaper cost and is fast (Mugenda and Mugenda, 1999). The study aimed to reveal how the extent of cloud data hosting leads to improved organizational performance in insurance firms.

3.3 Population

Population describes the specific set of people from which the information is wanted. The target population for the study was all insurance companies in Kenya, i.e census study. According to IRA, Kenya has fifty-five registered insurance companies.

3.4 Data Collection Methods

These are the methods the data for analysis was collected. Data was collected using questionnaire separated into 5 sections. Each insurance firm was given one questionnaire to fill. Section A captured data about general information about the firm and the respondents. Section B was touching on the extent of cloud data hosting adoption. Section C covered the drivers of cloud data hosting adoption. Section D was on cloud

data hosting opportunities and Section E covered the relationship between cloud data hosting and organization performance. The mode of collection was “drop” and “pick” later. The respondents targeted were the Infrastructure manager, Technical Manager, Systems Administrators as well as other users using the computing resources in other departments.

3.5 Data Analysis

According to Wilkinson (2013), data analysis refers to a mathematical interpretation of the relationship that exists between dependent and the independent variables. The data collected was analyzed for completeness and accuracy. General Information (general characteristics of firm and population) was analyzed using frequency and percentages. The data of extent of cloud data hosting captured in Section B of the questionnaire was analyzed using mean and standard deviation. Likewise, data on drivers of cloud data hosting and data on opportunities of cloud data hosting were analyzed using mean, and standard deviation. To address the objective of relationship between adoption of cloud data hosting and organizational performance was analyzed using regression testing.

The regression model used:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \epsilon$$

Y=Organizational Performance

α = constant term

β_1 = Parameters

X_1 = Data Recovery

X_2 = Email service

X_3 = Web

X_4 = Data Storage

X_5 =Applications

X_6 =Data Backup

X_7 =Big Data Analytics

ϵ = Error

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND INTERPRETATION OF FINDINGS

4.1. Introduction

This section is a representation of the data that was collected on Cloud Data Hosting and Organizational Performance among insurance firms in Kenya. It represents the analysis of respondents' background information, and then delves into the extent of cloud data hosting adoption, cloud hosting adoption drivers, opportunities from cloud data hosting, and how the firm has performed as a result of Cloud Data Hosting adoption. The target population was all insurance firms which according to IRA records (2017) are fifty-five.

During the study some of the insurance firms as listed by IRA indicated that they shared a common ICT hub, for instance UAP Insurance Company Ltd, UAP Life Assurance Company Ltd and Old mutual Assurance, thereby resulting to a target of forty-four insurance firms. From the response rate, thirty-three out of forty-four (75%) questionnaires were filled and collected. According to Mugenda and Mugenda (2003), 60% response rate is good and a response rate of 70% and above is excellent .

4.2 Respondents Background Information

This section covers respondents age, gender, duration of working in the firm, number of branches the firm has and the time of operation of the firm.

4.2.1 Respondents Age

The research sought data on the age group of the respondents. Results of analysis of the data is presented in Table 4.2.1.

Table 4.2.1 Distribution of Respondents by Age Group

Category	Frequency (F)	Percentage (%)
Less than 25 years	2	6
26-35 years	15	45
36-45 years	10	30
46-55 years	1	4
Above 55 years	5	15
Total	33	100

From the results, most of the respondents indicated their age fell between 26-35 years (45%), 30% of the respondents indicated that their age was between 36-45 years, 15% indicated they were less than 25 years, 6% indicated 46-55 years, and 4% indicated they were above 55 years. This depicts that most of the respondents were aged between 26-35 years.

4.2.2. Respondents Gender

The study sought data on the gender of the population. The outcome is as shown in Table 4.2.2.

Table 4.2.2 Respondents Gender

Category	Frequency (F)	Percentage (%)
Male	25	76
Female	8	24
Total	33	100

The results showed that most of the respondents were male at 76% while 24% represented the female. This depicts that most of the responses came from the male.

4.2.3. Respondents Length of Working in the Firm

The study sought data on the duration of working in the firm for each respondent. Results are as shown in Table 4.2.3.

Table 4.2.3 Respondents Length of Working in the Firm

Category	Frequency (F)	Percentage (%)
Less than 5 years	16	48
6-10 years	10	31
11-15 years	4	11
Over 15 years.	3	10
Total	33	100

The results revealed that majority (48%) of the respondents had worked in the organization for less than 5 years, 31% had worked between 6-10 years, 11% recorded 11-15 years, and 10% had worked for over 15 years. This depicts that the respondents had worked for a sizeable duration of time and thus could offer reliable information.

4.2.4. Firm's Number of Branches

Data on the number of branches the firm has was collected. The findings are as shown in

Table 4.2.4.

Table 4.2.4 Number of Branches of the Firm

Category	Frequency (F)	Percentage (%)
5 or less branches	17	50
over 15 branches	9	28
11-15 branches	4	12
6-10 years	3	10
Total	33	100

The findings revealed that 50% of the population indicated the organization had 5 or less branches, 28% indicated over 15 branches, 12% indicated 11-15 branches, while 10% indicated 6-10 branches. This depicts that majority of respondents indicated the firm had 5 or less branches.

4.2.5. Time of Operation of the Firm

Data on the duration the firm had operated was collected. Results are as shown in Table 4.2.5.

Table 4.2.5 Time of Operation of the Firm

Category	Frequency (F)	Percentage (%)
Over 15 years	15	44
11-15 years	10	30
Less than 5 years	7	20
6-10 years.	2	6
Total	33	100

From the findings most (44%) of the respondents indicated their organization had operated for over 15 years, 30% indicated 11-15 years, 20% indicated less than 5 years, while 6% indicated 6-10 years. This depicts that most of the respondents indicated their organization had operated for over 15 years.

4.3. Extent of Cloud Data Hosting Adoption

Respondents were asked to specify the extent to which the firm had hosted data in the cloud in the questionnaire. The findings were presented on a five-point scale, where 1 = not at all, 2 = little extent, 3 = moderate extent, 4 = great extent, 5 = very great extent. From the analysis done, mean values of less than 1.5 represents not at all, mean values of 1.5 and above but less than 2.5 represents little extent, mean values of 2.5 but less than 3.5 represents moderate extent, mean values of 3.5 but less than 4.5 represent great extent, mean values of 4.5 to 5 represents very large extent. The findings are presented in Table 4.3.1.

Table 4.3.1. Extent of Cloud Data Hosting Adoption

Solution	Mean	Std Dev
Data Recovery	3.20	0.2309
Applications	3.29	0.4987
Data Storage	3.65	0.3219
Emails	3.30	0.5632
Big Data Analytics	3.99	0.4561
Data backup	3.75	0.3872
Web hosting	3.80	0.3998

Based on the findings, the respondents showed that to a great extent big data analytics was hosted on the cloud by the firm with a mean score of 3.99, followed by web hosting with a mean of 3.80, data backup mean of 3.75, data storage with a mean score of 3.65. The respondents indicated to a moderate extent that emails have been hosted in the cloud by the firm with a mean score of 3.30, followed by applications (mean=3.29), and lastly data recovery with a mean of 3.20. This depicted that big data analytics has a large extent of adoption among insurance firms in Kenya.

4.3.2. Management of the Hosted Solutions

The respondents were asked to indicate who manages the Cloud Data Hosted solutions. Management of the hosted solutions illustrated the level of control to the underlying services being offered. The results are shown in Table 4.3.2 .

Table 4.3.2 Management of the Hosted Solutions

Category	Frequency (F)	Percentage (%)
The firm	3	9
Third party	4	12
Both	26	79
Total	33	100

Based on the results, most of the respondents (79%) indicated the management of the cloud data hosted solutions was shared by both third party and the firm, 3% indicated the firm solely manages the solution and 4% indicated that the third party manages the solutions. This depicts that the management of the cloud data hosting solution was shared by both the firm and third party, indicating some level of shared responsibility between the firm and the service provider.

4.4. Cloud Hosting Adoption Drivers

The respondents were asked to specify which cloud data hosting drivers drove the firm to adopt cloud data hosting. The findings were presented on a five-point scale, where 1 = not at all, 2 = little extent, 3 = moderate extent, 4 = great extent, 5 = very great extent. From the analysis done, mean values of less than 1.5 represents not at all, mean values of 1.5 and above but less than 2.5 represents little extent, mean values of 2.5 but less than 3.5 represents moderate extent, mean values of 3.5 but less than 4.5 represent great extent, mean values of 4.5 to 5 represents very large extent. The findings are presented in Table 4.4

Table 4.4. Cloud Data Hosting Adoption Drivers

Driver	Mean	Std Dev
Cloud data hosting is relevant to the company's business	4.23	0.2213
Cost effective	4.14	0.1980
Unreliability of traditional IT solutions	3.39	0.3129
The need to have data backup	3.65	0.3009
Senior management support	3.40	0.2981
Upgradeability of IT systems	3.42	0.3129
The company was ready for cloud data hosting	3.80	0.2854
Competition in the market	3.72	0.1980
Work made easier	3.55	0.2182
Security and trustworthiness of solution	4.09	0.3182
Time saving	4.01	0.4109
Availability of cloud data hosting	3.99	0.4002

From the results the respondents shown that to a great extent that cloud data hosting is relevant to the firm (mean=4.23), followed by cost effective (mean=4.14), security and trustworthiness of solution (mean=4.09), time saving (mean=4.01), availability of cloud data hosting (mean=3.99), the firm was ready for cloud data hosting (mean=3.80), competition in the market (mean=3.72), the need to have data backup (mean=3.65), and work made easier (mean=3.55). The respondents further indicated to a moderate extent that upgradeability of IT systems had been realized by the firm (mean=3.42), followed by senior management support (mean=3.40), and unreliability of traditional IT solutions (mean=3.39). This depicts that to a great extent cloud data hosting is relevant to the firms.

4.5. Opportunities in Cloud Data Hosting

The participants were requested to point out the level of agreement on opportunities from cloud data hosting. The findings were presented on a five-point scale, where 1 - Strongly disagree; 2 - disagree; 3 - Neutral; 4 - Agree; 5- Strongly agree. From the analysis done, mean values of less than 1.5 represents Strongly disagree, mean values of 1.5 and above but less than 2.5 represents disagree, mean values of 2.5 but less than 3.5 represents Neutral, mean values of 3.5 but less than 4.5 represent Agree, mean values of 4.5 to 5 represents very Strongly Agree. The findings are displayed in Table 4.5.

Table 4.5. Opportunities in Cloud Data Hosting

Issue	Mean	Std. Dev
Competitive advantage has been realized	4.62	0.4420
The firm is Technology ready	3.30	0.3190
Firm supports innovative ventures	3.11	0.3742
There are helpful market insights through analytics	4.40	0.3112
Increased market share and growth	4.20	0.5002
Stability of I.T systems	3.42	0.4210
There is enhanced data security	4.32	0.3998
Training opportunities on industrial trends is being offered	4.55	0.3129
New ways of working have made work easier	3.56	0.2998
Variety of cloud solutions are available to choose from	4.50	0.3124

The results show that the respondents agreed that competitive advantage had been realized by the firm through cloud data hosting (mean=4.62), followed by training

opportunities on industrial trends being offered (mean=4.55), variety of cloud solutions available to choose from (mean=4.50), helpful market insights through analytics (mean=4.40), enhanced data security (mean=4.32), increased market share and growth (mean=4.20), and new ways of working have made work easier (mean=3.56). The respondents moderately agreed that stability of I.T systems had been realized (mean=3.42), followed by the firm was technology ready (mean=3.30), and firm supported innovative ventures (mean=3.11). This depicts that competitive advantage had been realized by the firm through cloud data hosting adoption. Training opportunities on industrial trends being offered by the various players in the market has led to useful insights and the availability of a variety of cloud solutions to choose from has encouraged the firm to embrace cloud data hosting.

4.6. Firm Performance as a Result of Cloud Data Hosting Adoption

The respondents were asked to specify the extent to which the firm had performed for each of the listed performance measures including resource management, visibility, business profits, quality of service, operational costs, systems availability, infrastructure costs, data processing and reporting, and business agility. The findings were presented on a five-point scale where, 1 = not at all, 2 = little extent, 3 = moderate extent, 4 = great extent, 5 = very great extent.

From the analysis done, the average values of less than 1.5 represents not at all, mean values of 1.5 and above but less than 2.5 represents little extent, mean values of 2.5 but less than 3.5 represents moderate extent, mean values of 3.5 but less than 4.5 represent

great extent, mean values of 4.5 to 5 represents very large event. The outcome is shown in Table 4.6.

Table 4.6. Firm Performance as a Result of Cloud Data Hosting Adoption

Organizational performance	Mean	Std Dev
Resource management	3.65	0.2113
Visibility	3.25	0.2339
Business Profits	4.66	0.3002
Quality service	4.58	0.2993
Operational costs	3.37	0.2110
Data processing and reporting	4.32	0.3012
IT infrastructure costs	3.52	0.2734
Systems Availability	4.29	0.2111
Business Agility	4.41	0.3420

Based on the findings, the respondents shown that to a great extent that the firm had improved its business profits (mean=4.66), followed by quality service (mean=4.58), business agility (mean=4.11), data processing and reporting (mean=4.32), systems availability (mean=4.29), resource management (mean=3.65), and IT infrastructure costs (mean=3.52). The respondents indicated to a moderate extent that the firm had improved its operational costs (mean=3.37), and Visibility (mean=3.25).

4.7. Relationship Between Cloud Data Hosting and Organizational Performance

A multiple regression model was adopted in testing the relationship between the extent of cloud data hosting and organizational performance amongst the insurance firms in Kenya.

The regression model used was:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \epsilon$$

In which,

Y=Organizational Performance

α = constant term

β_1 = Parameters

X1=Data Recovery

X2=Email service

X3=Web hosting

X4= Data Storage

X5=Applications

X6=Data Backup

X7=Big Data Analytics

ϵ = Error

The coefficient of determination was useful in explaining the extent in which changes in the dependent variable (organization performance) could be explained by the change in the independent variables (Data analytics, data backup, applications, emails, web hosting, data recovery and data storage). The coefficient of determination falling between 0 and 1 indicates the extent to which the dependent variable can be predicted. The coefficient of determination was used to measure the accuracy of the model as was used in the research.

4.7.1. Model Summary

Table 4.7.1 provides the model summary of the relationship between the extent of Cloud Data Hosting and Organization Performance amongst insurance firms mainly in Kenya.

Table 4.7.1. Model Summary

Model	R	Adjusted		Std. Error of the Estimate	F	P-value
		R Square	R Square			
1	.930 ^a	.864	.858	.239	47.341	.000

a. Predictors: (Constant) Data recovery, Email service, Web hosting, Data Storage, Applications, Data Backup, Big data Analytics

b. Dependent Variable: Organizational Performance among insurance firms in Kenya

Based on the analysis above $R^2=0.864$ (.86.4%) variation in organizational performance among insurance firms in Kenya was explained by all predictors in the model. Nevertheless, 13.6% variation not accounted for in organizational performance among insurance firms in Kenya was attributed to other factors not present in the regression model. Given the test result, the model was good hence can be used for estimation. The outcome presented in the table above show there was a strong positive relationship between the variables of study as seen by $R=0.930$, (i.e. 93%). This indicated there was a significant relationship among the predictor variables and organizational performance among insurance firms in Kenya.

4.7.2. ANOVA Results

Table 4.7.2 provides the Analysis of Variance (ANOVA) results of the relationship between the predictor variables (Big data analytics, data recovery, data storage, email, web hosting, applications and data backup) and organizational performance amongst the insurance companies in Kenya.

Table 4.7.2. ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.543	7	2.649	46.474	.023 ^a
	Residual	1.425	25	.057		
	Total	19.968	32			

a. Predictors: (Constant), data recovery, email hosting, data storage, applications, data backup, big data analytics

b. Dependent Variable: Y Organizational Performance

The significance value 0.023 is below 0.05 hence the model is statistically significant in predicting exactly how the factors (data recovery, email service, web, data storage, applications, data backup, and big data analytics) influence organizational performance among insurance organizations in Kenya. The F critical at 5% significance level was 2.649 and since the F calculated is more than the F critical (46.474), indicates that the model was significant.

4.7.3. Coefficient of Determination

Coefficient of determination on the relationship between the predictor variables and organization's performance among the insurance establishments in Kenya were calculated. Results are as shown in Table 4.7.3

Table 4.7.3 Coefficient of Determination

Coefficients^a					
Model	Unstandardized		Standardized	T	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	0.181	0.416		0.192	0.847
Data Recovery	0.469	0.100	0.383	4.69	0.033
Email service	0.140	0.014	0.157	0.002	0.015
Web Hosting	0.309	0.086	0.317	0.027	0.013
Data Storage	0.412	0.290	0.218	0.032	0.018
Applications	0.299	0.092	0.412	0.013	0.009
Data Backup	0.239	0.023	0.300	0.022	0.001
Big Data Analytics	0.512	0.214	0.290	0.041	0.005

a. **Dependent Variable: Y** Organizational Performance Among Insurance Firms

In Kenya

Multiple regression analysis was conducted to determine organizational performance among insurance firms in Kenya and the seven variables. From the findings, the regression equation,

$$(Y = \alpha + \beta_1X_1 + \beta_2X_2+ \beta_3X_3+ \beta_4X_4+ \beta_5X_5+ \beta_6X_6+ \beta_7X_7+ \epsilon)$$

Converts to:

$$(Y= 0.181+ 0.469X_1+ 0.140X_2+ 0.309X_3+ 0.412X_4 + 0.299X_2+ 0.239X_3+ 0.512X_4 + \epsilon)$$

According to the results taking all factors into consideration (data recovery, email service, web hosting, data storage, applications, data backup, and big data analytics) constant at zero, organizational performance among insurance establishments in Kenya was 0.181.

The data results analyzed also disclosed that taking all other independent variables at zero, a unit increase in data recovery will result to a 0.469 increase in organizational performance among insurance firms in Kenya; a unit increase in email hosting will result to 0.140 increase in organizational performance among insurance organizations in Kenya, a unit increase in web hosting will amount to a 0.309 increase in organizational performance among insurance companies in Kenya, in data storage will lead to a 0.412 increase in organizational performance among insurance firms in Kenya; a unit increase in applications will lead to 0.299 increase in organizational performance among insurance firms in Kenya, a unit increase in data backup will lead to a 0.239 increase in organizational performance among insurance firms in Kenya, and a unit increase in big data analytics will lead to 0.512 increase in organizational performance among insurance establishments in Kenya.

This infers that big data analytics contributes the most to organizational performance among insurance firms in Kenya, followed by data recovery. At 5% significance level and 95% level of confidence, data recovery, email service, web hosting, data storage, applications, data backup, and big data analytics were all significant on organizational performance among insurance firms in Kenya.

4.8 Discussion of Findings

The study found that to a great extent big data analytics in the cloud was adopted by the insurance companies in Kenya. This research also proved that the management of the cloud solutions was a joint responsibility shared by both the third-party provider and the firm. The study further found that to a great extent cloud data hosting is relevant to the firm's business. The study found that competitive advantage had been realized by the firm through cloud data hosting. Cloud data hosting has offered insurance firms many advantages such as low costs, pay per use models, and scalability.

Key business functions can be hosted off-site with a remote technology team on standby to service them. Managed resources have also shown significant reduction in operating costs for these firms. Support from the executive team in the organization is necessary in helping to overcome any internal barriers that may exist, such as resistance to change (Misra, 2011). Insurance companies have shown trust in hosting data in the cloud with the heightened measures in cloud security (CSA, 2011).

The study established that big data analytics contributed the most to organizational performance among insurance firms in Kenya, then closely followed by data recovery. At

5% level of significance and 95% level of confidence, data recovery, email service, web hosting, data storage, applications, data backup, and big data analytics were all significant on organizational performance among insurance firms in Kenya. Previous studies (Thong, 1999) show that when organizations receive some benefit from a new technology, then the chance of embracing the technology will increase.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This section presents the findings summary, discussion and conclusion, as well as suggestions for further studies on cloud data hosting and organizational performance amongst insurance firms.

5.2. Summary of the Findings

Considering the objectives of research, and the results of the study, the extent to which insurance firms in Kenya have hosted data in the cloud is as follows in ascending order, Big data analytics, web hosting, data backup, data storage, emails, applications, and data recovery. According to the findings the drivers of cloud data hosting adoption in ascending order are, cloud data hosting is relevant to the firm's business, cost effective, security and trustworthiness of solution, time saving, high availability, the firm was ready for cloud data hosting, stiff competition in the market, need to have a backup, work was made easier, upgradeability of IT systems, senior management support, and unreliability of traditional IT solutions.

The opportunities of cloud data hosting adoption in ascending order are competitive advantage realized, training opportunities offered on industrial trends, helpful market insights through analytics, variety of cloud solutions available, increased market share and growth, increased confidence in data security and new ways of working which have made work easier.

Based on the regression model results, the extent of cloud data hosting adoption has contributed to improved organizational performance among insurance firms in Kenya. This was reported in increased business profits, improved service quality, business agility, accurate data processing and reporting, high systems availability, better resource management, reduced IT infrastructure costs and operational costs and increased visibility in the market.

5.3. Conclusion of the Study

The study concluded that to a great extent Cloud Data Hosting is relevant to the insurance firms in Kenya enabling them to realize competitive advantage in facing competition in the market. With improved and accurate data processing and reporting they can build more trust with their customers. The customers will likely to be offered reliable services through highly available systems which ensure processing of their requests such as claims to be fast. This in turn may lead to a strong brand image from customers positive feedback. The findings of the study also indicated reduced operational and IT infrastructure costs for the firm which will contribute to improved organizational performance.

5.4. Recommendations of the Study

From the findings in the study it is recommended that Cloud hosting providers should avail successful case scenarios and statistics to help firms appreciate the possible benefits that cloud data hosting has to offer. To accomplish an agreement on an industry practice should be a main concern in the insurance sector to reduce doubts and thereby reassure adoption. Just as is the case in other ICT adoptions in industries, there are other matters

other than the technology that need to be considered such as, compatibility of the technology with the establishment's internal processes and policies. Further research needs to be conducted with a larger sample size in order to determine how firms can improve on their efficiency through Cloud Data Hosting adoption.

5.5. Limitations of the Research

The research concentrated on all insurance firms in Kenya. Data collected was one questionnaire per insurance firm. A study should be carried out with more than one respondent per insurance firm for better conclusion on the extent of Cloud Data Hosting and Organization Performance to reduce biasness. Data collection exercise was costly in terms of resources such as time, and transportation from one office to the other.

5.6. Recommendations for Further Research

The study concentrated on Cloud Data Hosting and Organizational Performance among insurance firms in Kenya. More research on Cloud Data Hosting ought to focus on exploring the sustainability of Cloud Data hosting plans in Kenya. There should also be a need to examine the effectiveness of cloud data hosting in creating reasonable competitive gain. Advanced research also should identify the issues still encountered by firms while embracing cloud data hosting as well as the level of satisfaction on the currently offered services.

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APPENDICES

APPENDIX I: QUESTIONNAIRE

SURVEY ON CLOUD DATA HOSTING EXTENT AND ORGANIZATION PERFORMANCE AMONG INSURANCE FIRMS IN KENYA

Instructions:

Please complete this questionnaire which comprises of five sections (A, B, C, D and E). Kindly read the questions and answer them by either filling in the blank spaces or ticking the check boxes [] appropriately. All information availed will be kept strictly confidential and will only be used for this study. Your participation will be highly appreciated.

A: GENERAL INFORMATION

1. What is your age group?

25yrs or less [] 26yrs – 35yrs [] 36yrs – 45yrs []
46yrs – 55yrs [] Above 55yrs []

2. Indicate your gender Male [] Female []

3. State your current position in the firm

4. For How long have you worked in the firm?

5years or less []

6 – 10 years []

11 – 15 years []

Over 15 years []

5. How many permanent employees does the organization have?

.....

6. What was the turnover of the firm for 2016/2017 in KES?

7. How many branches does the firm have?

5 or less [] 6 – 10 [] 11 – 15 [] Over 15 []

8. How long has the organization operated in Kenya?

5yrs or less [] 6yrs – 10yrs [] 11yrs – 15yrs [] Over 15yrs []

SECTION B: EXTENT OF CLOUD DATA HOSTING ADOPTION

9. Kindly indicate the extent to which the firm has hosted data for each of the following cloud solutions. Use the scale 1 = Not at all, 2 = Little extent, 3 = Moderate extent, 4 = Great extent, 5 = Very great extent

Solution	Not at all	Little extent	Moderate extent	Great extent	Very great extent
Data Recovery					
Applications					
Data Storage					
Emails					
Big Data Analytics					
Data backup					
Web hosting					
Others.....					

7. Who manages the hosted services? The firm [] Third party [] Both []

SECTION C: CLOUD HOSTING ADOPTION DRIVERS

12. Indicate the extent to which the following drove your firm to cloud data hosting.

Use the scale 1 = Not at all, 2 = Little extent, 3 = Moderate extent, 4 = Great extent, 5 =

Very great extent

Driver	Not at all	Little extent	Moderate extent	Great extent	Very great extent
Cloud data hosting is relevant to the company's business					
Cost effective					
Unreliability of traditional IT solutions					
The need to have data backup					
Senior management support					
Upgradeability of IT systems					
The company was ready for cloud data hosting					
Competition in the market					
Work made easier					
Security and trustworthiness of solution					
Time saving					
Availability of cloud data hosting					
Any other comment? Please specify.....					

SECTION D: OPPORTUNITIES FROM CLOUD DATA HOSTING

13. Kindly rate the level of agreement which each of the following statements as related to the firm, using the scale of: 1 - Strongly disagree; 2 - disagree; 3 - Neutral; 4 - Agree; 5- Strongly agree.

Issue	Strongly disagree	Disagree	Neutral	Agree	Strongly Agree
Competitive advantage has been realized					
The firm is Technology ready					
Firm supports innovative ventures					
There are helpful market insights through analytics					
Increased market share and growth					
Stability of I.T systems					
There is enhanced data security					
Training opportunities on industrial trends is being offered					
New ways of working have made work easier					
Variety of cloud solutions are available to choose from					
Any other? Please specify.....					

SECTION E: HOW HAS THE FIRM PERFORMED AS A RESULT OF CLOUD DATA HOSTING ADOPTION?

14. Indicate the extent to which your firm has performed for each of the following performance measures. Use the scale: 1= Not at all, 2= Little extent, 3= Moderate extent, 4= Great extent, 5= Very great extent

Organizational performance	Not at all	Little extent	Moderate extent	Great extent	Very great extent
Resource management					
Visibility					
Business Profits					
Quality service					
Operational costs					
Data processing and reporting					
IT infrastructure costs					
Systems Availability					
Business Agility					
Any other.....					

Thank you