CLOUD BASED ERPs AND ORGANIZATIONAL PERFORMANCE OF SMEs IN NAIROBI, KENYA

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DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

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Signed

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D61/68412/2013

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

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ACKNOWLEDGEMENT

I thank God for enabling me to complete this project. I also thank my supervisor Mr. Joel Lelei for his patient guidance and supervision throughout the course of undertaking this project.

DEDICATION

I dedicate this project to my family who have believed in me and encouraged me throughout the journey of attaining this MBA degree. I also dedicate this project to Charles who has given moral support throughout the entire research period.

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LIST OF ABBREVIATIONS

SMEs – Small and Medium Enterprise

ERPs- Enterprise Resource Planning Tools

FSD – Financial Sector Deepening

ICT – Information Communication Technology

IT – Information Technology

IBM – International Business Machines

SAP – Systems, Applications, Products

NAV – Microsoft Dynamics Navision

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ABSTRACT

This study sought to show the improvement of organizational performance through the adoption of cloud-based ERPs in the Small and Medium Enterprises (SMEs) in Nairobi, Kenya. The objectives were to establish the extent of adoption of cloud-based ERP functions, to determine the factors that affect adoption of cloud-based ERPs and to determine the relationship between cloud-based ERPs and organizational performance of SMEs in Nairobi, Kenya. The study used a descriptive survey. The primary data was collected using a questionnaire. The sample size was 40 SMEs in Nairobi using cloud-based ERPs. Out of the 40 questionnaires administered, only 30 were correctly and completely filled out. The response rate was 75% of the entire sample which was sufficient to carry out the analysis and a good representation of the SMEs using cloud-based ERPs in Nairobi. The study showed that the most commonly adopted functions of cloud-based ERPs were the Financial Management, Human Resource Management and Jobs and Resources management. The study also shows that the factors that greatly affect adoption are speed of access, loss of connectivity and efficiency in providing services. The study concludes that there is a relationship in improved organizational performance especially in accuracy of data processing, timely reporting and overall improvement in efficiency of the organization. Further research with a larger sample size of various categories of organizations will enrich the studies on cloud-based ERP adoption and improved organization performance.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Enterprise resource planning systems (ERP) have rapidly become a de facto standard in the business industry. In fact, cloud-related services and innovations are a great fundamental source of economic development and societal change. This has come about with the advent of improved speedy internet and advances in technology. ERPs have many benefits. Key among them is managing financial resources. However, with the known benefits of ERPs, there is little information available in the Kenyan academia on the importance of cloud ERPs. According to Saini et al (2011) "the world has been changing very fast in terms of enterprise systems and industries need very specialized solutions to their problems which are complex and require a lot of money". Cloud-based ERPs come in as a solution to cater for this problem.

Cloud based ERPs are hosted on the cloud platforms for access by various organizations at a fee. Access is through the internet on the Software as a Service (SaaS) model of cloud computing. Users pay per module they are using and per number of users accessing the system concurrently. (Saini et al., 2011)

1.1.1 Cloud-Based ERPs

Cloud computing is a new technological advancement that has revolutionized the operations of business in the global industry. Cloud computing is the provision of computing resources to consumers through a network such as an internet platform. Through cloud computing, companies are able to offer services on demand and help their customers' access computing resources at their convenience. According to Mohiuddin(2008), "cloud computing is a model that enables a network access to a shared pool of computing resources through networks, servers, and application". The model provides the service with minimal interaction from the service provider such as the management and this offers organizations an attractive approach to pool their resource in an effective manner. Presently, the cloud-computing model offers three types of services dominantly in the market. The services include; Infrastructure as a service (IaaS), Platform as a service (PaaS) and Software as a service (SaaS). Public cloud is the most popular cloud deployment model because it is accessible via an internet connection. Most importantly,

companies using cloud computing are not required to maintain and upgrade their software and hardware application. Even if cloud computing carries many benefits for a business operation, it still has it challenges on issues that relate to cloud reliability, security, and availability (Raymond, 2013).

The cloud based ERPs are used for internal business operations such as Financial Management, Human resource management, Customer Relationship Management, Inventory and Warehousing Management and Jobs and Resources Management. All these are common modules accessed through the cloud based ERPs. Because it can be accessed over the internet, deployment can be done across regional and global offices of an organization. It also gives the users flexibility of accessing the system on any internet-enabled device from anywhere they are as long as they have internet connectivity. A study conducted on ERP adoption in Kenya indicates that organizations should adopt an ERP as the major core of their cloud computing system.

According to Elgral and Kommos (2012), competitive advantage is what companies are aiming for among their competitors. They also seek to gain customer satisfaction. This goal is achieved through the adoption of the latest trends of information technology (IT). ERPs have the following main modules. Financial Management, Customer Relationship management, Human Resource Management, Jobs and Resources Management and Inventory and Warehousing Management. These modules enable an organization to better manage those aspects of the business which makes the organization more efficient and improves relationships between the organization and its customers and vendors as a result of proper management of processes.

According to Tehrani (2013), there are various factors that influence cloud computing adoption which include external (vendor) support, competitive pressure and management decision making level on cloud computing innovativeness. Others included employees cloud knowledge and the information intensity or availability on cloud computing. As such, this explains why the cloud computing adoption rate is not growing as fast as expected (Throng, 2010). Reduced cost is a factor that influences cloud computing adoption by organizations. A study carried out by Elgral and Serafi (2011) show that many companies have started to adopt ERPs with the aim of improving business performance.

Elgral and Kommos (2012) carried out a study to compare in house hosting of ERPs versus cloud based ERPs. The results show that in-cloud systems are faster to implement, pocket friendly, user-friendly and scalable. ERPs hosted In-house give organizations more control and hence many organizations consider them more secure, however, they are costlier to implement. In addition, cloud computing has been observed to be greener. Winston (2011) observes that if companies were to adopt cloud computing they would reduce their energy use and carbon footprint of computing by up to 90%. The world is moving towards environmental consciousness and thus reduction of carbon emissions has been a key factor being observed by many organizations in the world today. Less servers running means less power consumed and less heat emitted into the environment which is good for everyone.

Online security is deemed a major challenge in adoption as the users are unsure about the security of their information online. Kagwe (2012) cites the main reason for slow ERP adoption results from security issues, customization issues and integration concerns. Kituku (2012) suggested that further research should conduct to establish how cloud computing can add values to SMEs by providing information on its challenges and providing solutions.

1.1.2 Cloud Based ERPs and Organizational Performance

Cloud-based ERPs will enhance the company competitive advantage by enabling companies to access sophisticated technologies that will improve its business operation in the global market. In addition, these benefits will help in attaining business growth as organizations become more productive and innovative and this helps the organization focus on its core business (Bois, 2010). It is notable that cloud-based ERPs are applicable for any organization because cloud service providers give software application that are tailor made to fit the unique needs of an organization.

Cloud computing helps organizations save money and become more efficient and productive. The widespread usage of cloud computing has a direct impact on the economy as well. Therefore, an economy in which IT services operate on economies of scale uses resources more efficiently. Organizations are better able to improve their customer relationship through the help of the cloud based ERP because the systems are dynamic and work well in keeping track of

details of customers and communication with the customers. This has increased financial and operative advantages and reduced the operating costs for companies (Saini et al., 2011).

Users of cloud-based ERPs are better able to meet their targets even when away from the office or away from the country. This is because the cloud based ERPs are accessible through an internet connection. The users will thus log into the system from wherever they are and therefore access the system. This improves on efficiency of the organization.

1.1.3 Small and Medium Enterprises (SMEs)

According to Financial Sector Deepening (FSD) (2016), a Small and Medium Enterprise is a company that has between 12 and 250 employed staff members. The Kenyan business environment has changed over the years especially for SMEs. Indeed, the Kenyan market now demands customer satisfaction and quality service delivery and this requires that Small and Medium Enterprises (SMEs) improve their flexibility and elasticity. To address this issues, Small and Medium Enterprises (SMEs) are required to employ various techniques and measures that improve business functioning and process through incorporating better innovations, job automation systems and improved client service. Thus, Small and Medium Enterprises (SMEs) are required to use modern tools to understand the customer's unique needs and create a service that will meet their expectations (Kituku, 2012).

Therefore, this calls for Small and Medium Enterprises (SMEs) companies to understand the importance of adopting a technology that will act as a business strategy and promote customer satisfaction. In this regard, SMES implement cloud-based ERPs to provide business solutions and enhance their competitiveness. Cloud-Based ERPs require low investment cost in terms of human resource and finance and this makes it easier for SMEs to allocate resource effectively and boost its business operation. Presently, only one-third of Kenyan SMEs have the cloud-based ERP modules incorporated in their business functions. Further research indicates that 62% of Kenyan SMEs want to use ERP as a core of their business function but do not have the required ICT workforce (Kiveu, 2013).

SMEs have developed a subtle interest in developing cloud-based ERPs in their business operations however the adoption is slow. The main reason for slow ERP adoption results from security issues, customization issues and integration concerns. Thus, due to the limited literature on cloud ERP services, most SMEs lack the vital knowledge on how to adopt ERP and implement it in their business. Hence, there is a major concern for SMEs to understand and address these barriers so that they could easily adopt cloud-based ERPs in their business function (Kagwe, 2012). Small and medium enterprises (SMEs) mark the Kenya entrepreneurship and are sources of productive investment, poverty reduction and source of employment. The SMEs in Kenya are mostly registered business with less than two hundred employees and accrue great difficulty in accessing financial services in the emerging market (Kagwe, 2012). Nonetheless, the Kenyan SMEs are considered a great source of competition, innovation, economic dynamism and employment opportunities.

Statistics indicate that the SMEs sector indicates that SMES contributed to 60% of the jobs created in Nairobi County (FSD Kenya, 2015). In Nairobi County alone, SMEs provide employment to over 5% individuals and accounts for 80% of the startup business. The local government indicates that SMEs contribute to 18.4% of the total GDP and 90% new job creation. The sector is the engine of Nairobi government economic growth because it helps promote employment, ensure a sufficient flow of goods and services, and offers market competition by driving innovation. Conversely, their small sizes make it difficult for SMEs to compete effectively in ICT adoption and implementation (FSD Kenya, 2015).

Kenyan SMEs face unique challenges that affect their profitability and growth and this diminish their ability to promote sustainable development in the country. The key issues facing entrepreneurs in the sector include but not limited to poor IT infrastructure, high maintenance cost, poor governance and administrative failures (Kituku, 2012). Lack of credit access is the key problem facing SMEs in Kenya and this affects its ability to implement proper technologies and business practice in place. It is not enough to know how to produce a high quality product, it is also necessary that the producer must also know how to sell it effectively. They must also know how to control the financial side of the business and in doing that the entrepreneur must be

skilled in business. The above factors cripple the functionality of SMEs in Kenya (Wanjohi, 2016).

1.2 Research Problem

It is fitting that the cloud-based ERP has become popular. This is due to its integrated nature in harmonizing all the departments/units of an organization all on one system as opposed to the past where different units used different systems which were all stand-alone. Indeed, cloud-based ERP is a complex system that utilizes different technologies to help grow and organizations service delivery systems. Therefore, there are potential benefits of cloud-based ERPs to organizations, which include reduced capital expenditure, improved and dynamic scaling of resources on a metered basis, increased platforms transparency, improved storage, and data processing. Globally, the usage has been adopted widely by small and medium enterprises with the key distributers being Salesforce, Microsoft, SAP and IBM.

According to a study by Saini et al. (2011) on cloud computing and ERPs, they found that the uptake of cloud-based ERPs has been key especially with improved internet access, need for improved business operation and need for reduced costs. This study goes to show that the of adoption of cloud-based ERPs for improved organizational performance for SMEs in Kenya can work as well as it has worked globally. Nonetheless, cloud computing is a new technological advancement that provides both strategic and operational advantages to its adopters. According to a study done by Allart (2014), he discovered that SMEs in Thailand were slow in uptake of cloud-based ERPs as they did not feel the need to improve their competitiveness in the market and that they also have limited understanding of the functions of an ERP. Benlian and Hess (2011) also carried out a study to find out the major hindrance to adopting cloud-based systems and they found that security remains a major issue when users think about hosting their data on cloud as they do not have their data within their premises.

In Kenya, the adoption of Cloud-Based ERPs is slow but gaining interest among SMEs. However, SMEs in Kenya have not fully adopted cloud-based ERPs. In fact, the Kenyan vision 2030 seeks to transform the country SME's operation by helping them adopt ICT as on their biggest innovation. Therefore, this means that the vision recognizes the importance of SMEs as

driving factors of stimulating the Kenyan economic growth by creating job opportunities and fighting unemployment. However, despite the government efforts to increase the value of SMEs through using ICT and establishing internet infrastructure, there is the little adoption of cloud computing among Kenyan SMES. The reason why SMEs are reluctant to adopt cloud computing is due to security issues, cost, inflexibility, outages, poor technical support and lack of understanding of the integration process.

More pertinently, there are gaps in previous studies on cloud computing adoption in Kenya because they did not provide a guideline that SMEs could adopt in implementing cloud computing. Kituku carried out a study in 2012 on cloud computing and ERPs showed a gap of academic literature on the case studies and statistics that relate to cloud computing adoption and organizational performance. Most significantly, few studies outline SMEs adoption on cloud ERP as an emerging domain that can help promote a dynamic business environment for SMEs. This study seeks to answer what the relationship is between application of cloud-based ERPs and organizational performance of SMEs in Nairobi, Kenya.

1.3 Research Objectives

1. To establish the extent of adoption of Cloud-Based ERP modules used by SMEs in Nairobi, Kenya.
2. To determine the factors that affect the adoption of Cloud-Based ERPs by SMEs in Nairobi, Kenya
3. To determine the relationship between Cloud-Based ERPs and organizational performance of SMEs in Nairobi, Kenya.

1.4 Value of Study

Indeed, the study is integral as it provides in-depth information of the importance of cloud computing among SMEs in Kenya and helps change their attitude towards ERP cloud computing. The information provides by the study will help assist cloud service providers embark on creating customer awareness and influence their decisions on adopting cloud computing. In addition, the information accrued from the studies will help service providers gauge the market opportunities in Kenya that pertains to the provision of cloud computing

services to SMEs (Alam, 2009). In fact, the service providers will use the information to solve and eliminate the challenges SMEs encounter in adopting ERP cloud computing in their business function.

The Government and Communication Authority of Kenya (CAK) can use the study findings and recommendations to resolve the barriers to cloud computing and encourage adoption of ERPs by SMES. Therefore, CAK can formulate policies that will enhance technology acceptance and foster the adoption of ERP cloud computing by SMES. Most importantly, the study will act as a reference point to future researchers and student aiming to fill the knowledge gap in cloud computing and SMEs. As such, the knowledge gained will be instrumental in academic purpose and will provide an empirical source for future research in ICT and SMEs.

Therefore, the outcome of this study will help practitioners and scholars to assess the actual use of cloud computing in business and provide guidelines for its adoption by SMEs. Subsequently, the project will help fulfill the knowledge gap in the importance of cloud computing on business to help SMEs adopt ERP cloud computing.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

With the advent of technological advances, cloud computing a major trend in the business industry and a business strategy for organizations that want to obtain a competitive edge. Competitive edge can now be achieved through adoption of technology and proper customer relationship management overall. Software as a service (SaaS) for ERP usage is one of the disruptive technologies that seeks to challenge the traditional physical server-based hosting within local networks. This paper seeks to highlight the concerns of the targeted users of ERP software as a service to enable the concerned implementing corporations to address those concerns which in turn will promote the usage of ERP on the cloud.

2.2 Technology Acceptance Model (TAM)

According to Wixom and Todd (2005), TAM posits that an individual's intention to use a system is determined by the perceived usefulness and perceived ease of use with intention to use serving as a mediator of actual system use. Davis, Bagozzi & Warshaw (1989) state that perceived usefulness is also seen as being directly impacted by perceived ease of use. This will address the first objective that covers the extent of adoption of the cloud-based ERPs.

2.3 Inductive Theory

Inductive theory is where the observation is first made, patterns observed and the theory is stated (Duvoskiy, 2012). This caters for the second and third objectives in this study where the questions on the factors that affect cloud-based adoption and their relationship to organizational performance are addressed. The observations made will be on factors affecting adoption of cloud-based ERP adoption. The extent of improvement of organizational performance will also be studied for the patterns.

This theory is contributed to when we analyze the factors affecting adoption of cloud based ERPs. It shows the patterns of why organizations will chose to use or not use the cloud-based ERPs. This will also show the connection between adoption of cloud-based ERP functions and improved organization performance.

2.4 The Theory of Competitive Strategy

The theory by Porter may be contributed to in demonstrating the competitive advantage that the adoption of cloud-based ERPs offers to the companies that adopt it. Porter (1979) demonstrated a framework which uses concepts to derive 5 forces that determine market attractiveness. They consist of those forces close to a company that affect its ability to serve its customers and make a profit. If there are any changes in any of the forces, the company is required to re-assess its marketplace. There forces are: the bargaining power of customers, the bargaining power of suppliers, the threat of substitute products and the threat of new entrants. These four forces combine with other variables to influence a fifth force, the level of competition in an industry.

All organizations wish to be attractive in the market in a bid to gain more customers and make profits. They look to have an extra edge that puts them at an advantage over other companies. This is where the competitive strategy comes in. Adoption of cloud-based ERPs by small and medium enterprises will help an organization achieve competitive advantage. This is achieved by better service provision to customers, better relationships with suppliers due to efficiency, reduced operation costs by better utilization of resources and accuracy in data processing and reporting. It also raises the bar in the market for organizations to improve their operations.

2.5 Extent of Adoption of Cloud-Based ERPs

Cloud computing came in bringing about disruptive technology that has seen a transformation in how things are done. The disruptiveness of this technology is not yet fully understood by the majority of people including IT practitioners in Kenya. ERP usage has gained popularity in a lot of medium size and large organizations and is mostly used from locally hosted servers within an internal network. According to the International Journal of Management and Commerce Innovations (2014), Software as a Service (SaaS) which is sometimes referred to as "on-demand software" supplied by Independent Software Vendors (ISVs) or "Application-Service-Providers" (ASPs), is a software delivery model in which software and associated data are centrally hosted on the cloud. SaaS is typically accessed by users using a thin client via a web browser.

Over the years, Kenya has seen unprecedented growth in companies and even more growth in usage of technology. Most companies in major towns today have computers on almost every

desk and almost every working citizen has a mobile phone. In major cities all over Kenya, the use of smartphones is on the increase as mobile companies compete to capture the huge market for low-end smartphones. The usage of smartphones and computers means that the internet usage in the country has also increased at the rate of the spread of smartphones.

With a focus on the capital city of Kenya; Nairobi, the demand for proper systems that can manage the entire organization has become a priority as companies are spending millions of Kenya shillings investing in systems. The common trend now is the enterprise resource planning (ERP) tool (Saini et al., 2012). SMEs are increasingly gaining interest in cloud-based ERPs for internal business operations such as Financial Management, Inventory and Warehousing Management, Customer Relationship Management, Human resource management and Jobs and Resources Management. All these are common modules accessed through the cloud based ERPs. Because it can be accessed over the internet, deployment can be done across regional and global offices of an organization. It also gives the users flexibility of accessing the system on any internet-enabled device from anywhere they are as long as they have internet connectivity.

2.6 Factors Affecting Adoption of Cloud Based ERPs

Cloud computing is a concept that quickly picked up as well. Cloud computing offers a lot to companies that do not have the resources to buy servers and host them within their offices. The SAAS (Software as a Service) package constitutes a lot for such companies. This means that organizations can subscribe for software on a monthly or annual basis. Accessibility is also easy as users can access the cloud from any device as long as they have an internet connection. Computing is now device based to ensure that smart phones and tablets can also be used aside from the PC. In this context we will look at the ERP's. ERP's are enterprise resource planning tools. Examples are Microsoft Dynamics NAV, SAP and Oracle ERP. The ERP's are software used within an organization to manage the various functions and mostly account for how each resource is used up e.g. finances, human resources. The ERP's cost a lot of money to the tune of millions of shillings which small and medium size organizations may not be willing to spend on.

Notably, the increased SMEs adoption of cloud-based ERPs in Kenya is fueled by government regulation that companies should have reliable backup systems readily available online. The

government stipulates that traditional backups such as tapes should be done away with because of their susceptibility to errors, fraud, and theft. As such, many SMEs are unable to manage the cloud computing software and use it to minimize operational cost. Due to these factors, companies such as Safaricom Ltd, Seven Seas Technologies and CISCO entered the market in 2011 to help provide cloud-computing services to SMEs. The company targeted SMEs and offered a range of cloud computing services, which include hosting, backup services and storage. Other companies such as Kenya data network, info Connect, and Crimson technologies also offer cloud services such as SaaS, data recovery and PaaS (Kagwe, 2012).

The aforementioned companies previously offered cloud-computing services through satellite communication technology, which resulted to bandwidth limitations. Therefore, companies started using TEAMS, SEACOM and EASSY submarine fiber optic cables because SMEs were reluctant to adopt the cloud-computing concept (Kagwe, 2012). Nonetheless, the improved internet infrastructure shifted the cloud computing challenge and this helped Kenyan SMEs to protect, improve and grow the business while utilizing minimal capital. In fact, a Deloitte survey conducted in 2011 cited that tax and cost advantages as the significant reason why SMEs in Kenya continue to uptake cloud computing service. Despite these benefits, the survey reports cloud computing adoption in SMEs is still limited with legislation issues, data privacy and lack of IT knowledge within organizations. Nonetheless, the data indicate that SMEs are reluctant to adopt cloud-computing service because of its security and private issues and this caused over 15% SMEs to consider not using cloud-computing service for data management (Kagwe, 2012).

The big software companies like Microsoft and Google and SalesForce.com have provided cloud platforms that allow for partner organizations to utilize. The cloud platform comes in with infrastructure, development environments and provides for hosting applications as well. According to a whitepaper titled Microsoft Dynamics NAV 2013 R2 on Windows Azure (2014) released by Microsoft, they talk about how they have enhanced their ERPs, Microsoft Dynamics NAV 2013R2 and 2015 versions making them cloud friendly on their cloud platform Microsoft Azure. This means that once the solutions are developed, the partner organizations can get their clients to pay a subscription fee either monthly or annually to use the ERP online through the cloud. Companies are saved the cost of having to buy expensive servers or pay for the expensive

user licenses for their organization. Similarly, it reduces the costs to the partner organizations in customizing ERP's per client since all the clients will be using a "one-fits-all" solution making deployment easier.

According to researchers (Bitta, Elgral & Kommos, Rayner, Raymond), the use of cloud-based ERPs may not quite pick up as quickly as anticipated. This is mostly due to two factors. security and long running costs. The factor about security is that on the cloud it is hard to guarantee safety as it is in the public space. One other factor is the fact that not many people including CIO's in the Kenya quite understand the whole cloud computing concept. Security is hard to guarantee. This is because any online activity is subject to hacking easily as opposed to it being in an internal organization network with the adequate security mechanisms. According to Hagel and Brown (2010), most business executives are wary of cloud computing. Convincing management of companies to store their most sensitive company information- financials is quite an uphill task if the providers of the cloud service cannot guarantee security. It is well known that organizations are very competitive and even financial data is hardly disclosed unless it is a publicly listed company. And even so, carrying out a research e.g. obtaining the research budgets for the organizations, can be a very frustrating experience for a researcher. McGrath (2010) cautions that organizations need to be very careful in the information they want to put out on the cloud lest it spills out and puts the company in an awkward situation.

Similarly, the running costs to the organization subscribing to the service over a long period of time turn out to be huge as opposed to if the organization had saved up the money and purchased a server and the software. There is also varying understanding of the cloud computing concept even amongst IT professionals in an organization. Many IT managers and CIOs tend to understand cloud computing as a tool to aid in server virtualization. They are not fully aware of all that can be done on the cloud. According to Oredo and Njihia (2014) lack of proper awareness is due to the fact that technology always advances faster than the ability of businesses to adopt and use technology in new ways. The nature of technology is very dynamic so what applied five years ago may be irrelevant in the current age.

However, despite the various challenges, the cloud computing platforms promise 99.9% uptime meaning that they hardly go off. The only thing an organization will therefore need to invest in is good internet. In addition, cloud computing has been observed to be greener. Winston (2011) observes that if companies were to adopt cloud computing they would reduce their energy use and carbon footprint of computing by up to 90%. The world is moving towards environmental consciousness and thus reduction of carbon emissions has been a key factor being observed by many organizations in the world today. Less servers running means less power consumed and less heat emitted into the environment which is good for everyone.

2.7 Cloud Based ERP and Organizational Performance

Cloud-based ERPs have become a game changer for a lot of organizations all over the world due to its many benefits. Cloud-based ERPs help organizations run their business better, improving efficiency, providing accuracy in reporting and improved customer and supplier relationships. The flexibility of access using the internet makes it easier for access of the systems by the users from wherever they are through the use of an internet enabled device.

It is notable that organizations' biggest challenge is maintaining its operations cost because feasible studies indicate that most SMEs spend a lot of money in implementing proper information technologies. Cloud-based ERPs seek to address this challenge as the implementation and operation costs are greatly reduced since the users are now paying for the service rather than infrastructure and software costs. Gartner Research Circle survey conducted in September 2013 shows the willingness of some organizations to move their core ERP systems to the cloud. In this regard, it is advisable that SMEs in Nairobi adopt cloud computing as a paradigm that will add value to their business operations. For instance, cloud computing will increase SME's flexibility, scalability, and this will reduce its operation cost. Most importantly, cloud computing will enhance the company competitive advantage by enabling it to access sophisticated technologies that will improve its business operation in the global market. In addition, these benefits will help SMEs attain business growth as they become more productive and innovative and this helps the organization focus on its core business (Bois, 2010).

It is notable that cloud computing is applicable for both starting SMEs and the existing ones because cloud service providers give software application and network facilities that are tailor made to fit the unique needs of an organization. The cloud service providers rely on massive centralized data centers that help the SMEs to achieve the desirable economic of scale. Therefore, it is advisable that SMEs that have not adopted cloud computing in Kenya to make it a priority. This is because cloud computing in the global market grows at an annual rate of 28% since 2014 (FSD Kenya, 2015). Therefore, this means that over a million companies in the world are spending on cloud services to enhance their business operation. As such, this makes cloud computing a major trend in the business industry and a business strategy for organizations that want to obtain a competitive edge.

In fact, a study carried out by Deloitte (2011) conducted in 2011 cited that tax and cost advantages as the significant reason why SMEs in Kenya continue to uptake cloud-based ERPs. Despite these benefits, the survey reports cloud computing adoption in SMEs is still limited with legislation issues, data privacy and lack of IT knowledge within organizations.

2.8 Literature Review Summary

There is little information available in the Kenyan academia on the importance of cloud-based ERPs in adding values to SME's business performance (Rodríguez-Pose, 2008). In this regard, most SMES adopting cloud-based ERPs fail to understand the drivers of a successful ERP system and its challenges and this makes it hard for SMEs to utilize fully the system. If available information on ERP cloud computing services is provided, SMEs will understand the concept of cloud computing and this will add strategic and technical value to the enterprise. Therefore, this research paper seeks to illustrate how cloud-based ERPs can add business value to the SMEs in Kenya. The literature however suggests that cloud-based ERPs are being adopted albeit slowly across the globe especially by small organizations with limited financial resources to help them in their day to day operations of the businesses.

As per the first objective, which is to establish the extent to which cloud-based ERP functions have been adopted, studies show that cloud-based ERP usage has gained popularity and the various common modules such as Financial Management, Human Resources Management,

Customer Relationship Management, Supply Chain Management, Jobs and Resources Management are being adopted. The literature shows that the major factor affecting adoption is bandwidth limitation and security concerns by the cloud-based ERP users. If those factors are not managed well, it may hinder the adoption rate of cloud-based ERPs.

2.9 Conceptual Framework

The conceptual framework has two sets of variables namely the dependent and independent variables. The independent variable is the cloud-based ERP adoption. The dependent variable is the relationship of cloud-based ERP adoption to the organizational performance.

Independent Variable Dependent Variable

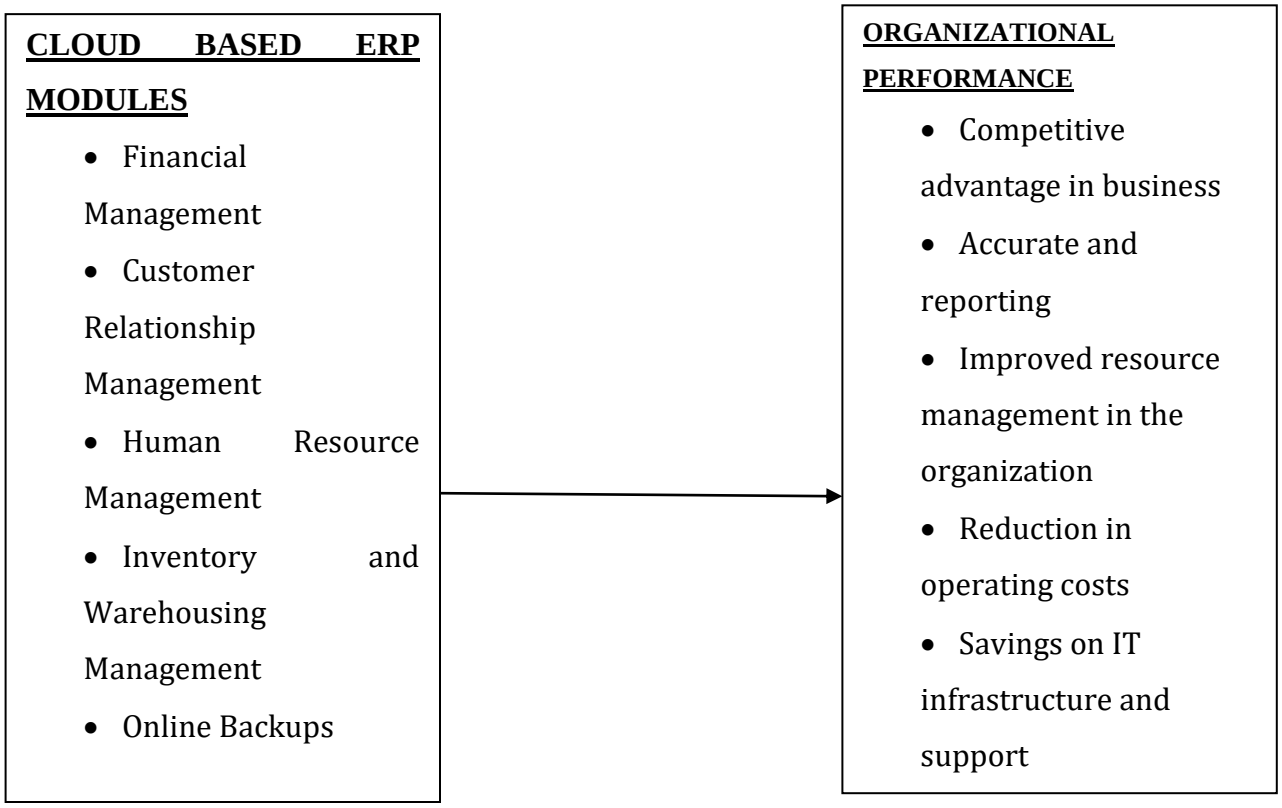

Figure 2.1 Conceptual Framework (Source, Researcher)

CHAPTER THREE
METHODOLOGY

3.1 Introduction

This chapter is about the research methodology that was used to carry out the research. It comprises of the research design used, how the study population was obtained, the sampling technique that was used, how data was collected and analyzed to give the findings. All these help in achieving the research objectives.

3.2 Research Design

This research used a descriptive survey design. Descriptive surveys are used to describe the behavior of the subject being studied. The study shows how usage of cloud-based ERPs leads to improvement in organizational performance of Small and Medium Enterprises (SMEs) in Nairobi, Kenya.

3.3 Population

The study population was the SMEs which are using cloud-based ERPs. These Small and Medium Enterprises (SMEs)are limited to the ones operating in Nairobi, Kenya. According Public Procurement Oversight Authority (PPOA), The number of registered SMEs in Kenya is over 30,000 registered Small and Medium Enterprises (SMEs) (PPOA, 2015).

3.4 Sampling

A sample of 40 Small and Medium Enterprises (SMEs)in Nairobi that use cloud-based ERPs were selected for study on judgmental basis. A Small and Medium Enterprise (SMEs), is described as an organization that has between 12 – 250 employees in its workforce (Financial Sector Deepening (FSD), 2016). This gave an opportunity to select Small and Medium Enterprises (SMEs) that are using cloud-based ERPs and therefore have the experience that the study seeks.

3.5 Data Collection Method

The data was collected using questionnaires. The method of distribution of questionnaires was by "drop and pick later". The respondents were IT managers and Finance managers from the 40 Small and Medium Enterprises (SMEs) in Nairobi, Kenya.

The questionnaire was divided into four sections; Section A dealt with demographics/ background Information. Section B dealt with the extent of adoption of cloud-based ERPs. Section C dealt with the factors that affect the adoption of cloud-based ERPs. Section D dealt with the relationship between cloud-based ERPs and organizational performance.

3.6 Data Analysis

Data analysis is the process of evaluating the data collected and giving findings. The collected questionnaires were analyzed to check for accuracy and completeness. The questionnaire was divided into four sections. Section A, which covered demographics, was analyzed using frequency and percentages. Section B covered the extent of adoption of cloud-based ERPs. This was analyzed using mean frequencies and standard deviation. Section C, which covered the factors affecting adoption of cloud-based ERPs in Kenya was analyzed using mean frequencies and standard deviation. Section D covered the relationship between adoption of cloud-based ERPS and organizational performance and was analyzed using regression testing.

The regression model was as follows.

$Y = a + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_5 X_6 + \beta_5 X_7 + \varepsilon$

Where,

Y = Organizational Performance

ε = Error

X_1 = Financial Management

X_2 = Customer Relationship Management

X_3 = Human Resource Management

X_4 = Inventory and Warehousing Management

X_5= Supply Chain Management

X_6 = Jobs and Resources Management

X_7 = Online Backups

a= y-Intercept

$\beta_1 \ldots \beta_5$ = Parameters

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND INTERPRETATION

4.1 Introduction

The study was guided by the general objective of the study which was to determine the relationship between cloud-based ERPs and organizational performance of Small and Medium Enterprises (SMEs) in Nairobi, Kenya. This chapter presents the study findings and interpretation of the results.

Out of the 40 questionnaires that were administered for data collection, 30 completed questionnaires were collected. This represents a response rate of 75% of the sample. This is considered a sufficient representation of all the Small and Medium Enterprises (SMEs) using cloud-based ERPs in Nairobi, Kenya.

4.2. Background Information

This section covers the gender representation, age, years that the firms have been in operation, the years the employees have worked in the organization, the number of employees in the organization and the number of years that the cloud-based systems have been in use.

4.2.1 Gender

The respondents were asked to reveal their gender in the questionnaires. The results are as in Table 4.2.1.

Table 4.2.1. Gender Distribution

Gender	No. of Respondents	Percentage
Male	23	76.67
Female	7	23.33
Total	**30**	**100**

76.67% of the respondents were male and the remaining 23.33% were female.

4.2.2. Age

The respondents were also asked to reveal their ages in the questionnaire. The distribution is as shown in Table 4.2.2

Table 4.2.2. Age of respondents

Age	No. of Respondents	Percentage
18-25	1	3.33
26-30	3	10.00
30-35	17	56.67
36-40	7	23.33
40-50	2	6.67
Total	**30**	**100**

56.67% of the respondents were between the ages of 30 – 35 years. 23.33% were between 36 – 40 years of age. 10 % were between 26 and 30 years of age. 6.67% of the respondents were between 40 – 50 years of age. The remaining 3.33% were between the ages of 18 – 25 years of age.

4.2.3 Years of Firm's Operation

The respondents were asked to declare the number of years their firms have been in operation. The results are as in the Table 4.2.3.

Table 4.2.3 Years of Firm's Operation

Years the organization has been in operation	No. of Respondents	Percentage
Less than a year	3	10
1-3 Years	24	80
4-6 years	3	10
More than 6 years	0	0
Total	**30**	**100**

80% of the responding firms have been in operation between 1 and 3 years. 10% have been in operation for 4 – 6 years and another 10% were in operation for less than a year.

4.2.4 Years Worked in the Organization

Respondents were asked about the number of years that they have worked in the organization. The results are as shown in Table 4.2.4.

Table 4.2.4 No. of Years Worked in the Organization

Years worked in the organization	No. of Respondents	Percentage
Less than a year	10	33.33
1-3 Years	14	46.67
4-6 years	6	20
More than 6 years	0	0
Total	**30**	**100**

Approximately 47% of the respondents had worked in their organizations for the duration of 1-3 years. 33.33% have worked in the organization for less than a year. 20% have worked in the organization between 4 – 6 years.

4.2.5 Job Titles

The respondents were asked about their job titles. This was an open ended question where they wrote in their job titles. These varied from IT Managers, IT Officers, Marketing Manager, Sales Executives, Finance Assistant Manager, Accountants.

4.2.6 No. of Employees in the Organization

The respondents were asked about the number of employees in their organizations. The data is distributed as shown in Table 4.2.6.

Table 4.2.6 No. of Employees in the Organization

No. of employees	No. of Respondents	Percentage
<10 employees	0	0.00
10-30 Employees	25	83.33
31-50 Employees	5	16.67
51-100 Employees	0	0.00
>100 employees	0	0.00
Total	**30**	**100.00**

83.3% of the total respondents revealed that the number of employees ranges between 10-30 employees. The remaining 16.67% work in organizations with between 31 and 50 employees.

4.2.7 Cloud Based ERPs Used in the Organization

Respondents were asked to select the ERP they are using. The results are as in Table 4.2.7.

Table 4.2.7 Cloud-based ERPs Used in the Organization.

ERPs used	No. of Respondents	Percentage
Microsoft Dynamics NAV	12	40.00
Salesforce	0	0.00
IBM	0	0.00
SAP	3	10.00
Other	15	50.00
Total	**30**	**100.00**

50% of the respondents are using other cloud-based solutions with the majority using Pastel online and a few others using some cloud-based ERPs for CRM needs. 40 % of the respondents are using Microsoft Dynamics NAV. It was noted that none of them were using IBM or SAP on account of the costs involved.

4.2.8 Years of Usage of Cloud Based ERPs

Respondents were asked about how many years they have used a cloud-based ERP in their organization. The responses are as shown in the Table 4.2.8.

Table 4.2.8. Years of Usage of Cloud Based ERPs.

Years of use of ERPs in the organization	No. of Respondents	Percentage
Less than 1 year	12	40.00
1 - 2 years	15	50.00
3 - 5 years	3	10.00
Greater than 5 years	0	0.00
Total	**30**	**100.00**

50% of the organizations have been using the cloud-based ERP for a period of 1 – 2 years. 40% have been using cloud-based ERPs for less than 1 year. Only 10% of the organizations have been using cloud-based ERPs for between 3 – 5 years.

4.2.9 Usage of a System before the Cloud-Based ERPs

The respondents were asked if they had used a system before in the current organizations prior to acquiring the cloud-based ERP services. The responses are as shown in Table 4.2.9.

Table 4.2.9. Previous System in use before cloud-based ERP

Previous System	No. of Respondents	Percentage
Yes	3	10
No	27	90
Total	**30**	**100**

90% of the SMEs did not have a previous system before acquiring the cloud-based ERP services. Only 10% had a system in place before moving to the cloud-based ERPs.

4.3 Extent of Adoption of Cloud-Based ERPs

The respondents were asked to select the extent to which they have adopted the following ERP functions. A five-point scale was used where 1 represents No Extent, 2 represents Little Extent, 3 represents Moderate Extent, 4 represents Large Extent and 5 represents Very Large Extent. Based on the mean values, the five-point scale ranges are as follows: mean scores of less 1.5 represents no extent; mean scores of 1.5 but less than 2.5 represents little extent; mean scores of

2.5 but less than 3.5 represents moderate extent; mean scores of 3.6 but less than 4.5 represents large extent; mean scores of 4.5 to 5 represents very large extent.

The response analysis is as shown in Table 4.3.

Table 4.3 Analysis of Extent of Adoption of Cloud-Based ERPs.

No	Extent of Adoption of cloud-based ERPs	1	2	3	4	5	Mean	Standard Deviation
1	Financial Management	2	0	1	12	15	4.27	0.23
2	Customer Relationship Management	15	0	0	5	10	2.83	0.22
3	Human Resource Management	10	0	0	8	12	3.40	0.19
4	Inventory and Warehousing Management	16	1	1	5	7	2.53	0.21
5	Supply chain management	11	1	3	2	13	3.17	0.19
6	Job and resources management	18	0	0	0	12	2.60	0.28
7	Online Backups	22	1	3	1	3	1.73	0.30

N=30

Based on the responses, the Financial Management has large extent among the SMEs. This is followed by Human resource management which has moderate extent of adoption. The rest in the same order are Supply Chain management, Customer Relationship management, Job and Resources Management, Inventory and Warehousing management and Online backups.

4.4. Factors Affecting Adoption of Cloud-Based ERPs

The respondents were asked to select the factors affecting adoption of the cloud-based ERPs. A five-point scale was used where 1 represents No Extent, 2 represents Little Extent, 3 represents Moderate Extent, 4 represents Large Extent and 5 represents Very Large Extent. Based on the mean values, the five-point scale ranges are as follows: mean scores of less than 1.5 represents no extent; mean scores of 1.5 but less than 2.5 represents little extent; mean scores of 2.5 but less than 3.5 represents moderate extent; mean scores of 3.5 but less than 4.5 represents large extent; mean scores of 4.5 to 5 represents very large extent.

The response analysis is as in Table 4.4.

Table 4.4 Analysis of Factors affecting adoption of cloud-based ERPs.

No	Factors affecting adoption of cloud-based ERPs	1	2	3	4	5	Mean	Standard Deviation
1	Speed of access of the system	0	0	0	5	25	4.83	0.36
2	Loss of connectivity	0	0	2	4	23	4.57	0.33
3	Flexibility	11	3	15	1	0	2.20	0.22
4	Efficiency in providing services	0	0	0	18	12	4.40	0.28
5	Ease of use of the system	0	0	3	15	12	4.30	0.23
6	Customizations required	23	1	1	1	4	1.73	0.32
7	Online security	2	3	5	11	9	3.73	0.13
8	IT Support from system providers	4	1	19	1	5	3.07	0.25

N=30

Based on the findings the following are the factors that affect adoption of cloud-based ERPs in descending order: Speed of access, loss of connectivity, efficiency in providing services, ease of use of the system, online security, IT support from system providers, flexibility and customizations required.

4.5. Relationship between Cloud-Based ERPs and Organizational Performance

The respondents were asked to indicate the extent which their organization's performance has improved as a result of using cloud-based ERPs. A five-point scale was used where 1 represents No Extent, 2 represents Little Extent, 3 represents Moderate Extent, 4 represents Large Extent and 5 represents Very Large Extent. The results were computed for each respondent and an average computed which is represented by Y. The X values from X1 – X7 represent the extent of adoption of cloud-based ERP functions. The values were regressed and the results are as per Table 4.5.1.

Table 4.5.1. Variables Entered

Variables Entered/Removed[a]			
Model	Variables Entered	Variables Removed	Method
1	X1, X3, X4, X2, X6, X7, X5[b]		Enter
a. Dependent Variable: Y - Organizational performance			
b. Financial management, Human Resources management, Inventory and Warehousing management, Customer Relationship management, Job and Resources management, Online Backups, Supply chain management.			

Table 4.5.2 Model Summary

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.560[a]	.302	.156	.54315	2.363
a. Predictors: (Constant), Financial management, Human Resources management, Inventory and Warehousing management, Customer Relationship management, Job and Resources management, Online Backups, Supply chain management.					
b. Dependent Variable: Y - Organizational performance					

This shows that 30.2% variation in the dependent variable (organizational performance) is explained by the independent variables (predictors).

Table 4.5.3 Regression

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.973	7	.425	1.440	.240[b]
	Residual	6.490	22	.295		
	Total	9.463	29			
a. Dependent Variable: Y - Organizational performance						
b. Predictors: (Constant), Financial management, Human Resources management, Inventory and Warehousing management, Customer Relationship management, Job and Resources management, Online Backups, Supply chain management.						

Table 4.5.4 Coefficients Table

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.098	0.917		2.288	.031		
	Financial Management	.311	.130	.548	2.381	.026	.388	2.580
	Customer Relationship management	-.104	.061	-.377	-1.722	.098	.678	1.475
	Human Resource Management	.27	.108	.977	2.508	.019	.175	5.725

	Inventory and Warehousing management	.081	.085	.123	.954	.349	.257	3.892
	Supply chain management	.135	.269	.435	.503	.620	.042	24.012
	Job and Resources management	.040	.187	.140	.215	.832	.035	13.636
	Online backups	-.163	.111	-.337	-1.466	.156	.156	2.637
a. Dependent Variable: Y - Organizational performance								

Based on the beta values from the coefficients table, the new regression model is $Y = 2.098 + 0.548X1 – 0.377X2 + 0.977X3 + 0.123X4 + 0.435X5 + 0.140X6 - 0.337X7 + Ɛ$

The results indicate that there is a relationship between adoption of cloud-based ERP functions and improved organizational performance for ERPs in Nairobi, Kenya.

4.6. Discussion of Findings

The findings show that the significant values are X1 and X3 which are Financial Management and Human Resources Management. They have the highest adoption rates and contribute greatly to the improved organizational performance, accuracy of data processing and timely reporting. This is consistent with the findings in section B where the extent of adoption of cloud-based ERP functions. This agrees with research carried out by Saini et al. (2012) where they cited increased interest in cloud-based ERP adoption with the Financial Management and Human Resources as the commonly adopted functions as well as the other functions listed.

The findings also show that users consider speed of access and connectivity to the system a high factor in their adoption and use of cloud-based ERPs. This is consistent with research carried out by Kagwe (2012) where he listed some of the concerns that may cause SMEs not to readily adopt cloud-based ERPs such as bandwidth limitation which affects speed of access and connectivity.

Bois (2010) showed that SMEs improve their operations and are able to focus on their core functions when they adopt cloud-based ERPs. This is consistent with the results showing improved overall organizational performance, accuracy in data processing, timely and accurate data processing and reduced operation costs

CHAPTER FIVE
SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter covers the summary of findings, conclusion, recommendations and suggestions for further research on cloud-based ERPs and organizational performance for SMEs.

5.2 Summary of Findings

In reference to the objectives of the study, and based on the mean, the extent of adoption of cloud-based ERPs by SMEs in Nairobi, Kenya, are as follows in descending order; Financial management, Human Resource Management, Supply chain management, Customer Relationship Management, Jobs and Resources Management, Inventory and Warehousing and Online backups.

Based on the findings the following are the factors that affect adoption of cloud-based ERPs in descending order: Speed of access, loss of connectivity, efficiency in providing services, ease of use of the system, online security, IT support from system providers, flexibility and customizations required.

Based on the regression of the results from section D of the questionnaire where the respondents were asked to indicate the extent of the cloud-based ERP usage on organizational performance indicators, it is evident that the adoption of cloud-based ERPs has improved organizational performance of the SMEs in Nairobi, Kenya. They are reported to have improved efficiency in the organization, accurate data processing, timely reporting in the correct formats and reduced operating costs.

5.3 Conclusion

The study concludes that adoption of cloud-based ERPs contributes to improved organizational performance of SMEs in Nairobi, Kenya. Organizations adopting cloud-based ERPs are able to better serve their customers and have reduced operating costs and increased margins. Organizations are able to focus on their core business without having to worry about the system taking over their time and resources.

Furthermore, the study contributes to the literature on cloud-based ERP adoption for organizations. Researchers can carry out extensive research with more funding. This can encourage organizations to reduce their operating costs through adoption of cloud-based ERPs and to also decentralize their operations and give flexibility to staff of organizations to be able to operate from wherever they are as long as they have an internet connection. This enhances global interactions as organizations will not be limited to the working hours of their time zones and this could increase trade across countries.

5.4 Recommendations

The study recommends that the challenges inhibiting adoption of cloud-based ERPs be addressed by the cloud-ERP service providers. Issues to do with connectivity and speed of access should be addressed by the government bodies concerned with internet service provision regulation. Service providers providing internet access should also ensure that the speeds provided are sufficient for the processing that is needed. Service providers should also ensure that the systems are user-friendly and easy to use to enable better adoption across the rest of the SMEs in Kenya.

It is also recommended that the study be extended and sample size increased. This will help in determining on how organizations can improve their efficiency through adoption of cloud-based ERPs. This can extend to not only SMEs but large corporations as well.

5.5 Limitations of the Study

The researcher faced time and funding constraints. The research was restricted to a few SMEs operating in Nairobi, Kenya. The other SMEs in Kenya were not part of this study. It would be advisable, to get their input also on the cloud-based ERPs and organizational performance. Not all the respondents correctly answered the questionnaires which lowered the sample.

5.6 Suggestions for Further Research

Further research on the adoption of cloud-based ERPs for improved organizational performance should be carried out. The sample size should be increased throughout Kenya and if possible, beyond. It can incorporate large organizations as well as small organizations. This will enrich the research and provide support for adoption of cloud-based ERPs.

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APPENDICES

QUESTIONNAIRE

SURVEY ON CLOUD-BASED ERPS AND ORGANIZATIONAL PERFORMANCE OF SMES IN NAIROBI, KENYA

My name is Mwendwa Makathimo and I am an MBA student at the University of Nairobi. I am conducting a research on cloud-based ERPs and Organizational Performance of SMEs in Nairobi Kenya. As part of my research, I am conducting a survey and request a few minutes of your time to answer this short questionnaire.

Kindly respond to each question with (X) where appropriate.

Section A. BACKGROUND INFORMATION

1. Please specify your gender

   ( ) Male ( ) Female

2. What is your age bracket?

   ( ) 18 – 25 ( ) 26 – 30 ( ) 30 – 35 ( ) 36 – 40 ( ) 40 – 50 years

   ( ) Above 50 years

3. How many years has the organization been in operation?

   ( ) Less than a year ( ) 1 – 3 years ( ) 3 – 5 years ( ) More than 5 years

4. How many years have you worked for the organization?

   ( ) Less than 1 year ( ) 1 – 3 years ( ) 3 -5 years ( ) More than 5 years

5. Kindly indicate your job title in the organization

   _____

6. How many employees do you have in your organization?

   ( ) < 10 ( ) 10-30 ( ) 30-50 ( ) 50- 100 ( ) >100

7. What ERP do you use?

   ( ) Microsoft Dynamics NAV

   ( ) Salesforce

   ( ) IBM

   ( ) SAP

Other (Specify) _____

8. How many years have you been using the cloud-based ERPs in the organization?
   ( ) Less than ( ) 1 year ( ) 1-2 years ( ) 3-5 years ( ) > 5 years
9. Did you have a system to carry out your processes before you purchased the cloud-based ERP services?
   ( ) Yes ( ) No

Section B. EXTENT OF ADOPTION OF CLOUD BASED ERPS

To what extent does your organization use cloud based ERPs to support the following functions? Kindly indicate using the scale given.

NO	INDICATOR	No Extent	Little Extent	Moderate Extent	Large Extent	Very Large Extent
1	Financial Management					
2	Customer Relationship Management					
3	Human Resource Management					
4	Inventory and Warehousing Management					
5	Supply chain management					
6	Job and resources management					
7	Online Backups					

Section C. FACTORS AFFECTING ADOPTION OF CLOUD BASED ERPS

To what extent does each of the following factors affect your usage of cloud-based ERPs? Kindly indicate using the scale given.

NO	INDICATOR	No Extent	Little Extent	Moderate Extent	Large Extent	Very Large Extent
1	Speed of access of the system					
2	Loss of connectivity					

3	Flexibility					
4	Efficiency in providing services					
5	Ease of use of the system					
6	Customizations required					
7	Online security					
8	IT Support from system providers					

Section D. RELATIONSHIP BETWEEN CLOUD BASED ERP AND ORGANIZATIONAL PERFORMANCE

To what extent has your organization's performance improved as a result using of cloud-based ERP? Kindly indicate for each of the following parameters of performance using the scale given.

NO	INDICATOR	No Extent	Little Extent	Moderate Extent	Large Extent	Very Large Extent
1	Improved customer relationship					
2	Accurate data processing					
3	Timely reporting in the correct formats					
4	Reduced operating costs					
5	Savings on IT infrastructure costs and support					
6	Improved supplier management					
7	Improved visibility in the market					
8	Improved efficiency in the organization					
9	Overall improvement in resource management					

Thank you!