EFFECT OF ENTERPRISE RESOURCE PLANNING FINANCE MODULE SYSTEMS ON FINANCIAL PERFORMANCE OF MOTOR INDUSTRY IN NAIROBI, KENYA

BY

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DECLARATION

Declaration by the Candidate

This research project is my original work and has not been presented for the award of degree in any other University. No part of this thesis may be reproduced without the prior written permission of the author and/or Moi University.

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DEDICATION

I dedicate the entire project to my loving wife and children. May the Almighty Lord continue blessing them with his favours.

ABSTRACT

Companies are increasingly implementing Enterprise Resource Planning (ERP) software solutions to improve operations and provide faster customer response (Copley, 2015) resulting in increased firm financial performance. The key functions of Enterprise Resource Planning financial module systems will include Accounts Payable (AP), Accounts Receivable (AR), Cash Management (CM) and Asset Management (AM) while customer service is catered for through Customer Relationship Management (CRM) module embedded in ERP systems. While there is a rich body of literature on ERP adoption and implementation, there is limited research on post-implementation effect on ERP systems usage. This study therefore seeks to bridge the knowledge gap on the effect of ERP systems usage. Further, considering the huge capital investments outlay used in development and implementation of ERP systems in motor companies, it is important for the motor companies to understand the impact of ERP systems usage on these firms' performance. The study had five objectives of finding out the effect of ERP systems usage on accounts payable, accounts receivable, cash management, asset management and customer service on financial performance of motor companies in Kenya. The study is guided by Stakeholder Theory which posits that sustainable success in ERP systems usage rests upon a systematic consideration of the views of all key stakeholders of which organizations are made up (Pouloudi & Whitley (1997); Lyytinen et al (1998) in line with two perspectives: inside-in (employees, managers) and inside-out (others: shareholders, partners). Agency Theory is described as a theory that has been proposed as a framework to dealing with many issues in human behavior (Patton & Mchahon, 2006). In this study, the agency theory is concerned with relationships which can be achieved through ERP systems connectivity among stakeholders; it views the organization as a system that consists of individuals who work together with a common goal of building an organization. The research adopted explanatory research design employing the use of mainly questionnaires as the primary data collection tool which was administered to a target population familiar with the use of ERP systems in Motor sector. Reliability and validity tests of research instruments was carried out through a pilot test done from Subaru Kenya Limited. Data was analyzed and presented using descriptive statistics and presented in terms of mean, standard deviation, coefficient of variation (CV) and significance test. Findings indicated a statistical relationship between all the variables tested and performance. Specifically, result indicate statistically significant effect of ERP systems usage on Accounts Payable ($p= 0.033$), Accounts Receivable ($p= 0.024$), Cash Management ($p= 0.023$), Asset Management ($p= 0.023$), and Customer service ($p= 0.019$) on financial performance respectively. Overall, there is a positive correlation and a strong relationship ($R=0.726$) between ERP systems usage and financial performance of Motor Industry in Kenya. The R-Square value of study was 0.527 which implies that ERP systems usage on Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer service accounted for 52.7% of the total variance in financial performance of Motor Industry in Kenya. The study recommends that managers in motor companies perform internal ERP systems usage analyses to determine their full utilization in the organizations to ensure that they derive maximum benefits from ERP systems usage. The study concentrated on variables with financial aspects of ERP systems usage hence researchers could therefore consider introducing other variables of strategic nature in ERP systems usage in similar studies such as organizational structure integration efficiency, Employees work efficiency, Regulatory factors compliance among other variables and establish their influence on performance.

LIST OF ABBREVIATIONS

AP	:	Accounts Payable
AR	:	Accounts Receivable
BSC	:	Balanced Scorecard
CRM	:	Customer Relationship Management
EAM	:	Enterprise Asset Management
ERP	:	Enterprise Resource Planning
FSCM	:	Financial Supply Chain Management
GM	:	General Motors
ICT	:	Information Computer Technology
IS	:	Information System
IT	:	Information Technology
SCL	:	Simba Corporation Ltd
ST	:	Stakeholder Theory
TAM	:	Technology Acceptance Model

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OPERATIONAL DEFINITION OF TERMS

Motor Industry - also referred to as automotive industry is a term that covers a wide range of companies and organizations involved in the design, development, manufacture, marketing, and selling of motor vehicles, towed vehicles, motorcycles and mopeds. It is one of the world's most important economic sectors by revenue. The automobile industry is a capital-intensive and knowledge-intensive industry, plays an important role in the country's socio-economic development. Currently, the industry is booming, involving an increasing number of countries in the production of cars, while the alignment of forces in the automotive market is constantly changing. The role of the automobile industry in the development of the modern economy and the prospects for its development is determined by the place of motor transport in the infrastructure of the national economy (Saberi, 2018).

Enterprise Resource Planning (ERP) System - an ERP system is a set of packaged application software modules, with an integrated architecture, that can be used by organizations as their primary engine for integrating data, processes and information technology, in real time, across internal and external value chains (Seddon et al, 2010).

Firm Financial Performance - is a method of measuring the success of the organization to ensure that it achieves its goals. The success of an organization is gauged from several indicators both qualitative and quantitative (Fry et al., 2008). These include financial performance and non-financial performance.

Accounts payable - is a division that is responsible for making payments owed by the company to suppliers and other creditors. Generally speaking, accounts payable are dealing with incoming invoices processing, approval and payment. (Tracy, 2018).

Accounts receivable - is the balance of money due to a firm for goods or services delivered or used but not yet paid for by customers. Said another way, account receivable are amounts of money owed by customers to another entity for goods or services delivered or used on credit but not yet paid for by clients (Mayes & Dyer, 2015).

Cash Management - refers to the collection, handling, control and investment of the organizational cash and cash equivalents, to ensure optimum utilization of the firm's liquid resources. Money is the lifeline of the business, and therefore it is essential to maintain a sound cash flow position in the organization (Mayes & Dyer, 2015).

Asset management - is defined as "a systematic process of maintaining, upgrading, and operating assets, combining engineering principles with sound business practice and economic rationale, and providing tools to facilitate a more organized and flexible approach to making the decisions necessary to achieve the publics expectations" (OECD 2001).

Customer service - is the act of taking care of the customer's needs by providing and delivering professional, helpful, high quality service and assistance before, during, and after the customer's requirements are met. Customer service is meeting the needs and desires of any customer. In other words, customer service quality is defined as the whole service quality perceived by customers after using the service (Liu et al., 2011), and is the premise of customer satisfaction.

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter introduces the background of the study, statement of the problem, objectives of the study and research questions. It concludes by giving the significance and scope of the study. The background establishes the justification of the study, while subsequent sections define the study problems and set out the objectives of the research.

1.2 Background of the study

Tougher competition in the marketplace is generating the need to better optimize resources, improve profitability and keep customers satisfied (Mayes & Dyer, 2015). According to Copley (2015), companies are increasingly implementing Enterprise Resource Planning (ERP) software solutions to improve operations and provide faster customer response resulting in increased firm financial performance. The key functions of Enterprise Resource Planning systems financial module will include Accounts Payable (AP), Accounts Receivable (AR), Cash Management (CM) and Asset Management (AM) while customer service is catered for through Customer Relationship Management (CRM) module embedded in ERP systems.

Mayes & Dyer (2015) contend that over the decades various IS automation solutions have been successfully implemented to help manage, monitor and control business processes, both within and across functional areas of the organization, with a goal toward maximizing revenue, minimizing costs, and gaining a competitive advantage. These systems span the

spectrum from standalone software used to support specific functional areas (sales, purchasing, accounting, etc.) to fully integrated ERP systems that cut across business processes. Castellina (2014) adds that companies which rely on ERP automated business solutions are more successful at managing the financial challenges that help them stay organized, report accurately, and manage their finances.

Enterprise Resource Planning (ERP) applications are software suites that help organizations integrate their information flow and business processes. They typically support the different departments and functions in the organization by using a single database that collects and stores data in real time. When ERP systems are fully realized in a business organization, they can yield many benefits: reduce cycle time, enable faster information transactions, facilitate better financial management, lay groundwork for e-commerce, and make tacit knowledge explicit (Davenport, 2011).

According to Sun, Bhattacherjee, and Ma (2009) current IT usage models do not venture into the outcomes of usage. But without studying outcomes, it cannot be known if IT investments are successful or not (Sun et al., 2009). The motor companies normally use huge capital investments outlay in development and implementation of ERP systems and therefore it's important for the motor companies to know the impact of ERP systems usage on their financial performance. The current research study aims to show the effect of ERP finance module systems usage in the motor sector.

Mayes & Dyer (2015) asserts that an organization that processes thousands of orders and/or invoices and executes thousands of matching Account Payable (AP)/Account Receivable (AR) transactions is often unable to affect an optimal AP/AR strategy without the use of automation. As such, understanding and adopting industry best practices in automating the AP/AR processes through ERP system can add significant value to an organization, particularly in the Purchase-to-Pay (PTP) process and the Order-to-Cash (OTC) process. They contend that the potential of automation through ERP system adding value to the PTP and OTC processes becomes evident as an organization strategizes to manage working capital and to optimize the cost of back office operations. The cash management process is improved with best practices when it is able to take advantage of the functionalities of an ERP system in several of the following ways including prompt recording of transactions, the capacity to have all transactions that involve cash flows included in budgetary estimation, and having budgetary estimations that are readily available and accurately comparable to actual cash flows (Mayes & Dyer, 2015).

According to Mayes & Dyer (2015), ERP systems provides the capacity to handle enormous volume while simultaneously optimizing the total number of workers in the AP/AR processes thereby offering grand benefits in terms of working with large volumes of transactions at a reduced cost. They further add that ERP systems not only reduces the cost of handling large numbers of transaction but the cost of the tedious tasks involved with review, coding, exceptional handling and the approval processes and that organizations are able to pull information from invoices, sales orders, purchase orders, shipping documents, inventory/warehouse documents and vendors' and customers' master files. Additional

capabilities of ERP systems include directing customer/vendor invoices for approvals, corrections, coding, or to resolve issues involved with disputes.

According to SAP (2011), automated workflow through ERP systems also expedites the validation of data, activation of exception alerts, and forwarding of documents to the appropriate personnel. This effectively streamlines the AP/AR processes and ensures critical tasks are performed correctly and efficiently. ERP systems also provide access to all order/invoice-related information so activities can be monitored, and data can be analyzed. When necessary, users are able to access the original order/invoice details in question. It is also important to track workflow tasks such as what actions have been taken, when and by whom. This allows organizations to troubleshoot issues more cost effectively (SAP, 2011).

Consequently, savings from the automation may not be limited to the AP/AR department (Mayes & Dyer, 2015). According to Mayes & Dyer (2015), an increased visibility with the ERP automation solutions allows vendors, customers, sales and purchasing personnel to have access to the details of the order and invoices throughout the process. With the visibility of these documents early in the process by the various stakeholders, issues that would delay processing and affect cash management can be detected and mitigate with minimum delay (Mayes & Dyer, 2015). Additionally, an ERP automation solution reduces the staffing requirement without sacrificing the number of transactions required to handle the AP/AR responsibilities. Consequently, the ability to handle a large number of

transactions with a reduction in staffing requirements lowers per transaction cost (Mayes & Dyer, 2015).

According to Mayes & Dyer (2015), one main reason of integrating an automated AP/AR system with financial supply chain management (FSCM) systems functionalities embedded in ERP systems is to resolve the reporting of cash management issues. This kind of ERP system automation is capable of establishing short range and medium range budgets. In fact, there are two recommended solutions to fortify the cash budgetary process in an FSCM; cash management (CM) and cash budget management (CBM). While CM takes a short-term view, CBM deals with medium-term and long-term liquidity developments. The concept of obtaining deeper insight into cash balances, as well as the ability to be more precise when matching the sources and uses of cash, improves forecasting which enables management to make profitable decisions - the primary goal of cash management (Cforia Inc., 2012).

Utilizing AP/AR automation allows software interfaces that are needed to perform real-time analysis of the organizations current cash cycle position and to eliminate the manual reconciliation process (Dunphy et al., 2008). Additionally, Mayes & Dyer (2015) asserts that FSCM solutions embedded in ERP systems often provide for AP/AR netting. When an organization is both a customer and a vendor, it may choose to offset open receivables against open payables items. Netting agreements add trading partner terms as well as deploying company controls. A selection program automatically pulls information from receivables and payables taking into consideration discounts, late fees, and withholding

taxes prior to determining the final netting amount. A review process and trading partner approval afford further verification to support the netting event. The result is to increase efficiency and reduce operational costs by consolidating transactions in the AP/AR systems, thus enabling netting of unapplied cash and providing an audit trail of netting transactions (Mayes & Dyer, 2015).

Asset management through Enterprise Asset Management (EAM) solution integrated to ERP system has a direct impact on profitability, since it affects the quality of the product or service produced or delivered (IBM Corporation, 2019). According to IBM Corporation (2019), it can justify the price and ultimately determine profitability. They contend that the quantity of goods produced, or services delivered directly contributes to the top-line revenue for organizations in virtually any industry. They add that an organization's revenue can be affected whether that good is a hard asset, such as an engine component, or a service delivered to a customer.

According to IBM Corporation (2019), asset management also has a logical impact on operational costs. They add that efficiencies realized by effectively managing labor, inventory and other support services directly impact the bottom line by helping to control costs. More timely and precise user intervention can improve productivity, reduce materials use and decrease the cost of doing business (IBM Corporation, 2019).

Customer service quality is defined as the whole service quality perceived by customers after using the service (Liu *et al.*, 2011), and is the premise of customer satisfaction.

Overall, service quality is given significant importance owing to its close relationship with cost, financial performance, and customer retention (Saravanan and Rao, 2007). Therefore, enterprises have started focusing on customer perceptions of service quality and subsequently on developing strategies by which to achieve customer satisfaction.

In today's world, consumers now have easy access to information on the internet and are well connected by means of technology, they can easily compare prices through the internet and hence non-price advantages, such as service quality, have become much more significant as a means of attracting and retaining customers (Ueltschy *et al.*, 2009) which can be realized through the usage of ERP systems.

Bull (2010) asserts that given the importance of service quality in retaining customers, it is critical for firms to understand what factors contribute to service quality. Moreover, firms have to perform better in their knowledge processing in order to acquire the knowledge needed to offer subsequent services that can best satisfy customers (Bull, 2010) which can be achieved through knowledge management capability (KMC) and customer relationship management (CRM) embedded in ERP systems which in turn enables firms to comprehend the essentials for enhancing service quality thereby providing useful management insights into developing effective strategies that allow enterprises to retain customers.

The research was carried out from three major motor companies in Kenya namely; Simba Corporation Limited, General Motor Company and Toyota Kenya Limited. Simba Corporation Limited is group of companies (The Group) established in 1968. The Group's

business interests today encompass motor vehicle assembly and distribution, spare parts distribution, service of motor vehicles, hardware supplies manufacturing, real estate, cinemas and film distribution and Hospitality Business Units which includes Villa Rosa Kempinski in Nairobi, Olare Mara Kempinski in Narok and Acacia Premier Hotel in Kisumu.

The subsidiaries of Simba Corporation Limited in motor sector are Simba Colt Motors Limited dealing with sale and service of Mitsubishi model range of vehicles, sale and service of Generators and sale and service of Tractors, Simba Vehicle Rental Limited established to offer car rental services including car hire, Africa Fleet Management Solutions Limited whose core business has been to create fleet management solutions which are client oriented and which provide cost savings and increase in operational efficiencies, Bavaria Auto Limited which deals with sales and service facilities of BMW model cars, Xylon Motors dealing with sale and service of Mahindra model range of vehicles and Simba Caetano Formula Limited dealing with sale and service of Renault model range of vehicles. The hub of their operations is located at The Group's Headquarters along Mombasa Road in Nairobi, Kenya.

General Motors produces vehicles in 37 countries under twelve brands: Chevrolet, Buick, GMC, Cadillac, Holden, HSV, Opel, Vauxhall, Wuling, Baojun, Jie Fang, and Ravon. It is the largest manufacturer of commercial vehicles in the East African region. Its manufacturing plant in Nairobi assembles a wide range of Isuzu trucks & buses. Their head office is located on Enterprise / Mombasa Road, Nairobi, Kenya.

Toyota Kenya Limited is the sole distributor of Toyota cars and Yamaha brands in Kenya. They deal in brand new and used Toyota cars and spare parts in Kenya. Their head office is on Uhuru Highway, Nairobi, Kenya.

1.3 Statement of the problem

There are numerous studies in Information Technology development and implementation which have focused on studying Enterprise Resource Planning systems. ERP system is thought to provide organizations with a means of creating a sustainable competitive advantage that is imperative in today's turbulent environment. Scholars in different forums have stated that ERP is a packaged business software system that lets an organization automate and integrate the majority of its business processes, share common data and practices across the enterprise and produce and access information in a real-time environment thereby enabling an organization to draw upon core competencies and transition these into performance outcomes critical for success.

While there is a rich body of literature on ERP systems adoption and implementation, there is limited research on post-implementation effect on ERP systems usage. This research aimed to engage on this problem and fill this research gap. Further, considering the huge investments capital outlay involved in development and implementation of ERP systems in motor companies, it is important for the motor companies to understand the impact of ERP systems usage on their financial performance in the current dynamic business environment.

Empirical evidence reveals that little research attention has been devoted to measuring the impact of ERP systems usage in Motor industry. This lacuna of knowledge is unjustifiable because the implementation of ERP systems as have been indicated by many Scholars in this field is a source of increasing cost and concern to management, especially in the Motor sector. It is against this background that the goal of this study was to discover the impact of ERP systems usage on firm performance by measuring the impact of ERP finance module systems usage on financial performance of Motor Industry in Nairobi, Kenya.

1.4 Objective of the study

1.4.1 General objective

The general objective of this study was to investigate effect of Enterprise Resource Planning finance module systems on financial performance of Motor Industry in Nairobi, Kenya.

1.4.2 Specific objectives

The specific objectives of this study were:

1. To establish the relationship between Accounts Payable module and financial performance of Motor Industry in Nairobi, Kenya.
2. To determine the effect of Accounts Receivable module on the financial performance of Motor Industry in Nairobi, Kenya.
3. To examine the extent to which Cash Management module influences on the financial performance of Motor Industry in Nairobi, Kenya.

4. To evaluate the influence of Asset Management module on the financial performance of Motor Industry in Nairobi, Kenya.
5. To ascertain the relationship between customer service module and financial performance of Motor Industry in Nairobi, Kenya.

1.5 Research Hypothesis

From the objectives, the following hypotheses were formulated and were tested: -

1. There is no relationship between Accounts Payable module and the financial performance of Motor Industry in Nairobi, Kenya.
2. There is no relationship between Accounts Receivable module and the financial performance of Motor Industry in Nairobi, Kenya.
3. There is no relationship between cash management module and the financial performance of Motor Industry in Nairobi, Kenya.
4. There is no relationship between Asset Management module and the financial performance of Motor Industry in Nairobi, Kenya.
5. There is no relationship between customer service module and the financial performance of Motor Industry in Nairobi, Kenya.

1.6 Significance of the study

The findings of this study will offer valuable contribution to theory and practice. This study will also be seen in the fact that the outcome will be applied in the development of an ICT policy framework as a guide for ERP adoption and usage, which is relevant in most Motor Companies in Kenya which will help in promoting the economic growth. Further, the study

will create a forum for further discussions on best practices of implementation and usage of ERP system. This will help organizations in not only looking at ERP just as any other technological adoption but looking at it as a strategic tool that will help Motor Companies to improve its performance and towards competing effectively in the competitive field. This will basically give an organization a competitive edge over its rivals. In this respect, the study sought to improve our understanding of the issues of ERPs as they apply to Motor Companies in Kenyan Business and the best ways to apply towards their development, implementation and usage.

1.7 The scope of the study

The scope of this study was limited to the assessment of effect of Enterprise Resource Planning finance module systems on the financial performance of Motor Industry in Kenya. The study was centered on motor companies in Nairobi, Kenya in examining how ERP has influenced their performance.

The research was based at Simba Corporation Group of Companies located along Mombasa Road, Nairobi, Kenya, with its branches spread across Mombasa, Kisumu, Kisii, Narok and Nanyuki towns. The study was carried out in period between August 2019 to October 2019. Descriptive statistics and inferential statistics specifically multiple linear regression was used to make the analysis with the aim of verifying whether there's correlation or relationship between the independent variables and dependent variable.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looks at the issues related to the influence of ERP on organizational financial performance. The chapter develops a theoretical framework to justify the need for the current study, empirical review on the relationship between Enterprise Resource Planning (ERP) and firm financial performance and conceptual framework to guide the study discussion. The chapter also looks at the research gaps.

2.2 Firm Financial Performance

Firm financial performance is one of the most important constructs in management research and outsiders normally evaluate a firm's ability based on its performance. This implies why performance is like a mirror to a firm. The definition of firm performance could vary from one and another. According to Richard & Devinney (2009), firm performance encompasses three specific areas of firm outcomes: financial performance (profits, return on assets, return on investment, etc.); product market performance (sales, market share, etc.); and shareholder return (total shareholder return, economic value added, etc.) On the other hand, firm financial performance can also be measured using perceived performance approach (also referred to as subjective performance measure) where Likert-like scaling is used to measure firm financial performance from the top management perspectives (Selvarajan, 2007).

Firm financial performance is a method of measuring the success of the firm to ensure that it achieves its goals. The success of a firm is gauged from several indicators both qualitative and quantitative (Fry et al., 2008). These include financial performance and non- financial performance.

Traditionally, a variation in firm performance is associated with industrial structure. Depending on organizational goals, different methods are adopted by different firms to measure their performance. This performance indicator can be measured in financial and non-financial terms (Bakar & Ahmad, 2010). Most firms, however, prefer to adopt financial indicators to measure their performance. Return on assets, (ROA), average annual occupancy rate, net profit after tax and return on investment, (ROI), are the commonly used financial or accounting indicators by firms. Some other common measures are profitability, productivity, growth, stakeholder satisfaction, market share and competitive position. However, financial elements are not the only indicator for measuring firm performance. It needs to combine with non-financial measurement in order to adapt to the changes of internal and external environments. Supporting this opinion, Rubio and Aragon (2009) divided business performance into four dimensions, that is internal process, open system, rational goal and human relations, where each dimension is measured by any changes in its own variables.

2.2.1 Accounts Payable and Firm Financial Performance

Accounts payable (AP) could be defined as a division that is responsible for making payments owed by the company to suppliers and other creditors. Generally speaking,

accounts payable are dealing with incoming invoices processing, approval and payment. (Tracy, 2018).

According to Tracy (2018), Accounts payable main function de-facto is invoice handling as it concerns an actual invoice, which is core of any payment. He explains that invoice presents itself as a commercial document that declares a transaction between a buyer and a seller.

Bragg (2013) asserts that accounts payable as a core part of invoicing processing has always been highly influential on company's workflow, operational sustainability as well as profitability. He contends that importance of efficient accounts payable has increased significantly nowadays due to rise of competition, operational velocity and size.

According to Bragg (2013), invoice processing tends to make up the largest part of the actual work in accounts payable. He adds that optimized invoice handling enables companies to save resources on internal operations. In practice, it means lower operational costs and higher profitability of the company that could play a key role in the whole enterprise's development and growth (Bragg, 2013).

The most common ERP automated AP solutions include e-invoicing, scanning, fax-to-scan, workflow management, worklists, online tracking, e-reporting capabilities, and e-payment services to the vendor, among other characteristics (Mayer & Dyer, 2015). According to Concentric (2014a), modern ERP automated AP systems work to integrate

best-practices to streamline the PTP procurement process, including features for duplicate invoice verification, customizable automatic invoice routing, straight-through processing for invoicing matching, and 3-way matching. This can be accomplished by streamlining purchase order requisitions with electronic purchase orders, eliminating paper invoices in favor of an e-invoicing system, automating document processing via electronic workflow processing, integration with vendor ERP and self-service portals, and more efficient payment processing.

Mayer & Dyer (2015) assert that an ERP automated AP system creates the payable instantly when the e-invoices are matched with the purchase orders and receiving documents in the system, without human assistance. They add that a critical function of FSCM AP automation through ERP system is the ability to use the vendor master data to schedule payments. The details of discounts for early payments and the tradeoffs for paying late and not taking the discount can be done promptly with the FSCM component. If vendor's invoices are processed manually delays may occur due to the AP clerk's workload. As a result, the appointed discount period given by vendor may have elapsed before the invoiced is processed for payment. Mayer & Dyer (2015) contend that ERP system allows a business to more readily take advantage of favorable payment term discounts, and to better manage capital by avoiding premature payment when extended payment terms are more favorable to capital budgeting. According to Mayer & Dyer (2015), an FSCM automated through ERP system can be programed to make real-time calculations as soon as the e-invoice is confirmed with a 3-way match. The cash discount is to be taken if the discount is greater than interest earned on the cash if left in the interest-

bearing account. If it's more prudent to take the discount, then the invoice would be scheduled to be paid accordingly. If it is not effective to take the discount, then the invoice payment would be scheduled to be made later within the vendor's terms. With each transaction involved with AP, this scheduling feature optimizes the account payment period, the organization's cash cycle and the budget of cash outflow estimates (Klassen, 2009).

According to Concentric (2014a) and Tyagi (2013), it is estimated that an automated AP system through ERP can drive the cost down to around five dollars per invoice and reduce processing time to less than a week. Concentric (2014a) asserts that other advantages of using ERP systems to process AP will include the elimination of costly and time-consuming manual tasks, the removal of processing bottlenecks, a secure audit trail, more accurate and timely analysis of cash flow, and improved vendor visibility throughout the supply chain.

2.2.2 Accounts Receivable and Firm Financial Performance

The use of ERP systems in managing Accounts Receivable (AR) will enable companies to improve their billing and payment processing systems by the need to reduce days sales outstanding (DSO) and overall costs of receivables processing (Mayer & Dyer, 2015). Poor sales ledger data quality due to open items can harm a company's reputation and its bottom line (ReadSoft 2015).

According to Mayer & Dyer (2015), the FSCM automation of AR through ERP system enhances the scheduling of payment receipts. To process customers e-invoices via FSCM they are processed with each shipment (or completion of services), wherein the FSCM system then can gather data from the customer master data and transactional data repository to estimate cash inflows and to minimize DSO. As a sale is formalized upon the shipment of goods, and an e-invoice is sent to the customer. Simultaneously, there is a scheduling of the planned receipt of the payment from customer via the FSCM and the customer's master data payment terms. With the prompt invoicing system, effective estimations of cash inflows can be calculated to prepare short and medium range cash management budgets. Payment terms associated with each customer's master data are used to estimate payment cycle-times. Additionally, disputed days sales outstanding (DDSO) due to billing disputes are often reduced as data input errors are mitigated by the automation. Solutions for managing billing disputes are resolved quickly as the customer receives invoices earlier than when manually processed and is able to make claims of any perceived dispute. Hence, both the DSO and DDSO can be significantly reduced. Fortifying the scheduling of payment receipts and reducing DDSO optimizes DSO, as well as optimizes the business's cash cycle and the budgeting of cash inflows estimates (Gatttiker & Goodhue, 2005). As FSCM transactions are best captured with automation, notably, timely information is received due to automation of AR through ERP system and hence improves the cash management process.

Mayer & Dyer (2015) asserts that as FSCM automation through ERP system is adopted by more customers, these same customers are wanting their systems to integrate with their

vendor's system. An ERP automated AR system can accelerate order-to-cash by streamlining either or both the ordering and payment systems, which have a direct impact on cash flows. The key to a successful AR strategy is to apply technology and automation in as many places as possible (Corcentric, 2014b). Key features of ERP automation system include e-POs, automated validation of incoming invoices, and automatic archiving and reporting of PO and invoice data. Regarding AR invoicing, typical automation through ERP system provides for e-delivery of invoices across multiple channels (fax, email, web-portals, EDI), e-dunning solutions, and archiving and reporting of AR invoice data. In regard to payment solutions, typical automation through ERP system provides for credit card payment, management of credit and collections, and automated reconciliation of AR.

According to ReadSoft (2015), by reducing manual processing of invoices and payments, eliminating bank fees, allocating cash more quickly, and improving visibility and reporting of the process, AR processes operate more efficiently, cost-effectively, and provide customers better service. Additionally, manual work and errors can be reduced by automating through ERP system all of the data capture, cash applications, and exception handling, while DOS, unallocated cash and open items can be decreased.

Automating AR through ERP system also results in shorter cycle times overall, and lower cost, just as automated AP systems do. Data from APQC showed that 100% of top-performing industrial products organizations process all AR accounts electronically. Conversely, the bottom performers receive receipts electronically or automatically only 37% of the time. Consequently, as the percentage of automated AR systems through ERP

increases, the cycle time from transmission of invoice to receipt of payment can be expected to decrease (Kaigh, 2015).

According to Mayer & Dyer (2015) increasingly, many customers are opting to do business with partners that offer automated processes through ERP systems, even favoring higher product and/or service costs over issues related to vendors with manual systems. They add that while it may not be easy for an organization to get all of their customers to participate in the ERP automated AR system, it is still worthwhile to promote it. But an organization must also provide e-invoice presentment with payment and an outline of data elements necessary for the customer to post into their automated platform. Additionally, supporting documentation must be provided for invoice review (within the same platform) and facilitate invoice detail matching with the payment details entered by the customer while payment is made. This will allow customers to use the data to generate a detailed AP document for import to reconcile their AP and settlement data. Mayer & Dyer (2015) asserts that by implementing an ERP automated AR solution that accommodates customer requirements, and by providing e-payment, organizations can realize new levels of operational efficiency while enjoying significant cost reductions. Mayer & Dyer (2015) adds that the ultimate benefits to the ERP system automated AR process includes fewer billing errors and significant reductions in billing disputes, increased receivables process control, and greater workflow visibility to monitor internal operating efficiencies.

2.2.3 Cash Management and Firm Financial Performance

It is certain that a business's solvency is dependent on the strength of its working capital and effective cash management (Mayer & Dyer, 2015). Working capital is the cash a company has available to utilize for the ongoing operations (Jordan, Ross, & Westerfield, 2008), and is used for payroll and payables to vendors. According to Mayer & Dyer (2015), these payments are necessary to ensure workers will continue to perform their jobs and vendors provide the inventory needed to generate revenue. Consequently, cash management is a vital function of any business. According to Cforia Inc. (2006), it is significant to the success of the organization to perform proficiently the process of cash management. Jordan et al. (2008) enumerates four main processes involved with cash management to include; 1) estimating future cash receipts, 2) estimating future cash payments, 3) preparing a budget and limiting spending to the budget, and 4) promptly comparing budget to actual cash flows. With these four cash management processes in mind it become obvious that tracking cash flows (comparing actual to planned) to manage a budget is an important business function. The more competent the budget process is the better the organization is with cash management.

According to Mayer & Dyer (2015), the cash management process is improved with best practices when it is able to take advantage of the functionalities of an automated system in several of the following ways including prompt recording of transactions, the capacity to have all transactions that involve cash flows included in budgetary estimation, and having budgetary estimations that are readily available and accurately comparable to actual cash flows.

2.2.4 Asset Management and Firm Financial Performance

There are many reasons for the increased demand for better asset management. When organizations raise the importance, risk, quantity or cost of their corporate, critical or capital assets, they often see a corresponding rise in management's interest to maintain control and visibility of these assets (IBM Corporation, 2019).

IBM Corporation (2019) asserts that in this new era of mobile, cloud and analytics technologies, there are more opportunities than ever to collect, consolidate and analyze information about assets to help fine-tune performance. They add that governments, regulatory bodies, shareholders and other key stakeholders have pressured organizations in public and private sectors to be able to locate and track asset whereabouts and lease obligations. The higher the risk or opportunity cost in not knowing where an asset is located, the greater the incentive for management to implement an asset tracking system.
According to IBM Corporation (2019), Enterprise Asset Management (EAM) solution integrated in ERP system can provide real-time insight and visibility into virtually all physical assets, and across the maintenance, repair and overall supply chain. They contend that foundational capabilities of asset management are integral to managing an organization's smarter infrastructure. Such skills include tracking, monitoring and managing information around asset reliability, asset usage and performance.

Clearly, enterprise asset management integrated in ERP system is critical to the health of an organization (IBM Corporation, 2019). They contend that when handled correctly, it

can be the key to continued operations in times of reduced budgets. Asset management can also help extend the useful life of equipment, improve return on investment and defer new purchases (IBM Corporation, 2019). Furthermore, they assert that using EAM integrated in ERP System helps control or eliminate overstocking and stockpiling and can also help reduce the organization's fixed capital investment and contribute to positive bottom-line results.

2.2.5 Customer service and Firm Financial Performance

Nowadays, Consumers have easy access to information on the internet and are well connected by means of technology, they can easily compare prices through the internet and hence non-price advantages, such as service quality, have become much more significant as a means of attracting and retaining customers (Ueltschy *et al.*, 2009). Cheng *et al.* (2008) asserts that, since firms are increasingly dependent on the relationships they have with their customers, the development of a strong customer relationship has become key issues for business managers. Furthermore, according to Kodama (2007), it is important for corporations to possess the capability of identifying and deciding which method to use for integrating diverse new knowledge from internal and external environments in order to develop new products and services for customers. Moreover, given the importance of service quality in retaining customers, it is critical for firms to understand what factors contribute to service quality. Bull (2010) asserts that firms have to perform better in their knowledge processing in order to acquire the knowledge needed to offer subsequent services that can best satisfy customers.

Most ERP systems today have integrated Customer Relationship Management (CRM) software which fulfils the customer side of the system thereby ensuring customers' expectations and company goals are met.

According to Beijerse (1999), CRM is a way to manage customer knowledge so that a company can understand and serve customers better. Shi and Yip (2007), contends that customer knowledge is an important asset for a company as it allows its business to provide quick response toward customer needs, as well as to adapt to the dynamic markets. According to du Plessis and Boon (2004) , CRM is about understanding, anticipating, and managing customer needs in order to build and manage customer relationships that will help the enterprise to retrieve useful knowledge from the customer that will enhance its organizational effectiveness and efficiency, all of which will enhance profitability. Kamakura *et al.* (2005) in their study classified CRM into analytical and behavioral CRM. Analytical CRM refers to how an enterprise extracts and analyzes valuable knowledge through interactions with the customers. Meanwhile, this information is to be developed into customized strategies to enhance customer loyalty and raise switching costs in order to obtain sustainable corporate advantage. On the other hand, behavioral CRM refers to the integration among connection channels with its customers that include such things as stores, the internet, customer service, and so on, for which customer purchase and service records are documented to help enterprises understand customers' purchase behavior. According to Eid (2007) analysis based on the marketing perspective, CRM is supposed to identify and focus on the best customers in accordance to frequency and monetary scoring, which will help identify clear goals and quantifiable objectives for the marketing

campaigns. Hung *et al.* (2010) asserts that, the CRM system is a means of innovative technology to facilitate the process of acquiring, developing, and maintaining customer relationships in more efficient and effective ways.

Definition of CRM was put forward by Siriprasoetsin *et al.* (2011) as a concept based on the philosophy of combining customers and marketing for relationship building. Furthermore, it is a communication process between customers and an organization's services in order to attract and maintain those customers who will be the organization's true customers. Moreover, Ryals *et al.* (2000) and Wang (2012) explains that CRM aims to improve the relationship between companies and their customers by managing all customer-related activities, such as marketing, sales, service and support in order to identify and retain the most profitable customers and improve the profitability of less profitable customers. Chalmeta (2006), Ozgener and Iraz (2006) asserts that, if a company successfully maintains enthusiasm, participation and interaction with its customers, as well as continuously integrates sales, marketing, and customer care, then it is possible to enhance customer loyalty and expand customer lifetime value. Therefore, this means that customers do not only deliver profits from the transactions they have made, but more importantly is the overall profit that they bring during the whole period when the firm is having a relationship with them (Ekinci *et al.*, 2014).

2.3 Enterprise Resource Planning Systems

Enterprise resource planning systems are extensive software systems that integrate a number of business processes, such as manufacturing, supply chain, sales, finance, human

resources, budgeting, and customer service activities (Weinrich & Ahmad, 2009). They result in enormous investments in software and in package customization (Doom, Milis, Poelmans, & Bloemen, 2010).

ERP solutions evolved from applications focused on materials requirements and resource planning and computer integrated manufacturing. The Enterprise Resource Planning term came about when software developers were searching for a name that would more aptly describe these broader systems (Gartner group, 1990). These new solutions provided functionality that encompassed other applications in addition to manufacturing. In the year 1990, the Garter Group employed the acronym ERP, as an extension of materials requirements planning, which later changed to manufacturing resource planning and computer integrated manufacturing. ERP came to represent a larger whole, reflecting the evolution of application integration beyond manufacturing.

According to Mabert et al. (2001), ERP systems are designed and configured to achieve seamless integration of all of the information flowing through an organization, by integrating information-based processes within and across different functional departments, such as accounting, finance, human resources, manufacturing and distribution. They also connect the organization to its customers and suppliers and thus enable the integration beyond organizational boundaries. They are multifunctional in scope, integrated in nature, and modular in structure.

The ERP system assists in managing the connections to outside stakeholders as well as enhancing performance management. It uses a centralized database and usually relies on a common computing platform. It provides the user with a unified, consistent, and uniform environment. According to the research conducted by Michael Burns (2009), ERP enables companies to break down traditional organization's silos, replacing them with a tightly integrated horizontal structure in which strategy, organizational structure, process and technology are closely aligned.

The benefits of Enterprise Resource Planning systems have been proven by a number of studies. According to a study conducted by The Aberdeen Group, the following quantifiable benefits from best-in-class ERP implementations were found: 22% reduction in operating costs, 20% reduction in administrative costs, and 17% inventory reductions (for manufacturing and distributing), 19% improvements in complete and on-time delivery, and 17% improvements in schedule compliance (for manufacturing and distributing).

2.3.1 Impact of Enterprise Resource Planning systems on firm financial performance

The benefits of ERP systems have been constantly advocated and reported by ERP vendors and consultants. These benefits are generally supported by the post-implementation performance of ERP systems and improvement of productivity and profitability of the hosting organizations.

Notable benefits of ERP software solution are that it streamlines and integrates operations, processes and information flows in an organisation. According to TopBits (2011), the ERP

system automates operations from supply chain management, Inventory control, Manufacturing, scheduling and production, Human resources, Procurement and Sales, Customer relationship, Budgeting and planning, Financial and cost accounting and almost any other data-oriented operations. Seddon, Calvert, & Yang (2010) asserts that ERP systems are large scale, real time integrated application packaged software that support business processes, information flows, reporting, and business analytics.

With a majority of business transactions, organisational structure, automation, workflow, and reporting well supported by enterprise resource planning systems today, they are considered the backbone of the current IT infrastructure (Davenport et al., 2004). Moreover, Grabski, Leech, & Schmidt (2011) asserts that, by collecting greater amounts and types of internal data, enforcing business processes and controls, restricting and monitoring employee tasks, and supporting internal controls to a greater extent than ever before, ERP systems are changing the very nature of business.

Davenport et al. (2004) and Seddon et al. (2010) have further stated that some capabilities delivered by the ERP systems have resulted in increased access to information, improved quality of information for decision making, and consistent and effective execution of business processes.

According to SAP (2010) and Shang & Seddon (2000), organizational benefits of ERP systems will include facilitating learning, empowering employees, building a culture with common visions, and improving employee morale and retention.

Chen *et al*. (2012) asserts that successful ERP implementations increase data quality, improve decision making, and enhance automation through a higher number of auto-generations compared to traditional or pre-ERP system implementations.

Saatcioglu, (2007) has also documented other benefits of ERP systems as being its complete integration with all the business processes, reduction in the volume of data entry, upgradability of the technology, portability to other systems, adaptability, and applying best practices.

Furthermore, risk reduction is regarded as an additional benefit of ERP (SAP 2010). By providing real-time information as well as analysis and reporting tools, ERP systems can serve to reduce the business risks that might otherwise be difficult to forecast beforehand and resolve in time. There are also studies that support positive connections between ERP and improved liquidity (Matolcsy et al. 2005), and ERP and increased profitability (Hendricks et al. 2007, Matolcsy, et al. 2005).

According to SAP (2010), ERP systems can also help align business strategies with daily operations of an organization. Furthermore, as Internet becomes indispensable and ubiquitous today, web-enabled ERP systems can integrate or support e-Business.

Dechow and Mouritsen (2005) have stated that the ERP system is also very powerful and able to improve a company's transaction processing capabilities, which may involve thousands of transactions in a day. Moreover, record keeping tasks become much easier

and more coordinated (Chapman and Kihn, 2009) while unnecessary costs incurred due to data duplications can be eliminated (Kamarulzaman and Mohamed, 2013).

2.4 Empirical review

Numerous research studies have indicated that Modern organizations are making significant investments in complex information systems such as the enterprise resource planning (ERP) systems. According to Chang, Cheung, Cheng, & Yeung, (2008), despite their avowed benefits, more than two thirds of ERP system projects result in failure. Chang et al. (2008) asserts that Organizations need to understand the system adoption from the user's perspective in order to prepare their employees to face new challenges and learn how to make good use of the technology to reap tangible benefits.

Addo-Tenkorang & Helo (2011) suggests that without successful implementation of the system, the projected benefits of improved productivity and competitive advantage would not be forthcoming. Therefore, this requires changes not only in systems but also in processes and other social dimensions (Kwahk & Kim, 2008) and in the coordination among members of the organizations (Chang et al., 2008). According to Kallunki,Laitinen, & Silvola (2011), the implementation of ERP systems in an organization is often accompanied by substantial changes in organizational structure and ways of working.

A study conducted by Ifinedo and Nahar (2009) tried to examine the impact of some organizational information technology (IT) factors (i.e. IT assets, employees' IT skills, IT resources, and satisfaction with legacy IT systems) and their interacting effects with two

contingency factors (i.e. organization's size and structure) on ERP system success. Their findings supported that organization's size and structure had moderation effect in some of the relationships. Another study carried out by Morton and Hu (2008) developed a set of propositions about the relationships between the characteristics of ERP systems and the dimensions of organizational structure based on structural contingency theory and Mintzberg's (1979) ideal structural types of organization.

According to Wagner and Newell (2006), an ERP system can strengthen a company's fiduciary control. A study conducted by Kim (2013) for example found that a firm that uses an ERP system is negatively associated with an audit report lag; however, this negative association is significant only after a certain period—specifically, three years after initial ERP implementation. This means that an organization's use of ERP may help decrease the audit report lag. Yet this benefit is not immediate and instant; rather, it takes some time for the full impact of the firm's accounting systems to be realized.

The use of ERP system in an organization also contributes to better internal control practices. This is shown by a study conducted by Morris (2011), in examining SOX Section 404 compliance for firms that implemented ERP systems between 1994 and 2003. In this study, it was documented that ERP-implementing firms are less likely to report internal control weaknesses than a matched control sample of non-ERP-implementing firms.

A study conducted by Mustapha and Ismail (2013) found that companies with a centralized information structure have significantly lower monitoring costs compared to those companies adopting a decentralised information system. This can be achieved because the

ERP system enables the company to store information centrally. Furthermore, the integrated profit, cost, and revenue information provides the company with an opportunity to reduce costs and, hence, increase profits. These important figures can be effectively analyzed and evaluated as well.

Tyagi's (2013) research study focused in comparing companies categorized as "best-in-class," "industry average," and "laggards," the finding reflect that the best-in-class companies engaged in automated AP/AR integrated in ERP systems were 189.5% more likely than laggards to offer support for e-invoicing through the PTP process, helping both vendors and customers "get on-board with electronic invoice management and expediting the workflow by automating the sub-process across the entire chain." The result is significant improvement in strategic cash flow management resulting from myriad AP/AR managerial tasks.

Ball's (2014) research study further distinguished between companies categorized as "leaders" and "followers," in regard to keys to success driving automated AP/AR integrated in ERP system. These keys include electronic transactions (invoicing and orders), electronic process automation enablement (automated settlement information capture) and enabling technologies to improve efficiency and visibility to the processes. Ball's findings which included many companies with complete ERP solutions was obvious the degree to which automation provided a more optimal solution to AP/AR processes and cash flow management.

According to Kearney's survey, companies that currently use computerized maintenance management systems in asset management exhibited an average of 28.3 percent increase in the productivity of maintenance, 20.1 percent reduction in equipment downtime, 19.4 percent savings in the cost of materials, 17.8 percent decrease in inventory maintenance and repair, 14.5 months of payback time (IBM Corporation, 2019).

Tseng, (2016) research study showed that CRM embedded in ERP system has a significant effect on service quality. This means that if understanding customer preferences and providing customized services are superior, service quality is significantly enhanced. Tseng, (2016) contends that in order to enhance service quality, enterprises must strive to enhance employees' capability of understanding customer preferences and providing customized services. As for understanding customer preferences, a firm should understand what kinds of products/services customers like and what kinds of marketing methods customers like. As for providing customized services, a firm should effectively identify and acquire the right customers and segment and classify customers in order to provide customized products and services for their target customers. Moreover, a firm can maintain close interactions with their customers to establish long-term relationships (Tseng, 2016).

2.5 Theoretical framework

2.5.1 Stakeholder Theory

The study is guided by Stakeholder Theory (ST) that was proposed by Freeman (1984) which is particularly relevant to this study. In the book of Freeman (1984) the earliest definition of Stakeholder is often credited to an internal memo report of the Stanford Research Institute (SRI) in 1963. They define them as “those groups without whose support the organization would cease to exist”. Freeman (2004) has continued to use this definition in a modified form: “those groups who are vital to the survival and success of the organization”. This definition is entirely organization orientated so the academic circles prefer the definition of Freeman (1984) where he defines stakeholders as “any group or individual who can affect or is affected by the achievement of the organization objectives”. According to Friedman (2006), this definition is more balanced and much broader than the definition of the SRI. He adds that the phrase “can affect or is affected by” seems to include individuals of outside the firm and groups may consider themselves to be stakeholders of an organization, without the firm considering them to be such. Friedman (2006), states that there is a clear relationship between definitions of what stakeholders and identification of who are stakeholders. He identifies the main group of stakeholders to be Customers, Employees, Local Communities, Suppliers and distributors and lastly the Shareholders. In addition other groups and individuals are considered to be stakeholders in the literature of Friedman (2006) which includes the media, the public in general, Business partners, Future generations, Past generations (founders of organizations), Academics, Competitors, NGOs or Activists, Stakeholder representatives such as trade unions or trade associations of

suppliers or distributors, Financiers other than stockholders (debt holders, bondholders, creditors), Competitors, Government regulators and policy makers.

Stakeholder Theory posits that sustainable success rests upon a systematic consideration of the views of all key stakeholders of which organizations are made up Pouloudi & Whitley (1997); Lyytinen et al (1998). The Stakeholder Theory considers two perspectives: inside-in (employees, managers) and inside-out (others: shareholders, partners). In the extent IS literature, stakeholders have been identified based on a particular research purpose. For example, Lyytinen et al (1998) describe stakeholders as actors that can set forward claims or benefit from IT systems development issues. Singletary et al. (2003) identified stakeholders as managers, IT professionals, and end users. Thus, ST could facilitate insights when ERP success is to be discussed from the point of view of differing organizational stakeholder groups, which appear to be similar to the dictates of the organizational performance literature in which “the perspective of the evaluator” is esteemed (Cameron, 1986).

Mayes & Dyer (2015) contends that an increased visibility with the ERP automation solutions allows stakeholders such as vendors, customers, sales and purchasing personnel to have access to the details of the order and invoices throughout the process of AP/AR. With the visibility of these documents early in the process by the various stakeholders, issues that would delay processing and affect cash management can be detected and mitigate with minimum delay (Mayes & Dyer, 2015) thereby increasing trust among the stakeholders hence strengthening their businesses. Phillips (2004) notes that historically

ST has been plagued by questions on how to allocate management resources, including time, energy, etc. to other stakeholder groups in the corporation. He adds “While there is no determinate algorithm, ST can provide some broad direction on making these decisions”

2.5.2 Agency Theory

Closely related to Stakeholder Theory is the Agency Theory which is also relevant in this study. Lambert (2001) describes agency theory as one of the most important theoretical paradigms in accounting research during the past 20 years, having at its roots the information economics literature. Eisenhardt (1989) asserts that agency theory grew out of risk sharing research by economists in the 1960s and 1970s to include the situation that occurs when cooperating parties have different goals and divisions of labor. This theory has been widely applied to various studies of organizations. Patton and Mchahon (2006) describes agency theory as a theory that has been proposed as a framework to dealing with many issues in human behavior. Basically, the agency Theory is concerned with relationships; it views the organization as a system that consists of individuals who work together with a common goal of building an organization. Organizations should focus on the role played by each individual in the organization. ERP systems are important to the organizations, the human factor is also important too. The relationship between the systems and humans should be as smooth as possible as both factors affect the implementation, development and usage of the ERP systems immensely. An organization should prepare its employees before implementing an ERP system and carry out training and user involvement throughout the implementation. Majority of organizations within the Motor sector in Kenya, often carry out facilitation workshops to train their employees and keep

on refreshing the knowledge they have with newer technology according to the present time.

Agency theory became popular as a communication theory overtime because it is believed that communication helps in defining and sustaining a system. Without communication, a system will likely fall out of homeostasis because the feedback loop or channel is not functioning properly. Communication is the key to keeping an interpersonal system operating at its best and therefore agency theory plays an important role in communication theories because it helps develop strategies for effective communication, whether they are in individual, group or intercultural communication within an organization.

According to Bragg (2013), the core of external invoice handling optimization strategy through ERP system is closer cooperation with suppliers, vendors and partner companies. In order to increase cooperation level, company should strengthen information flow (Bragg, 2013) with enablement of ERP system connections between them hence strengthening agency relationship.

This theory is significant to the study in that it provides new, validated measures of prequalification efforts, monitoring, incentive alignment, moral hazards and the adverse selection constructs that are important in permitting decision-making process on the implementation, development and usage of the ERP systems in the Motor sector in Kenya.

2.5.3 Technology Acceptance Model

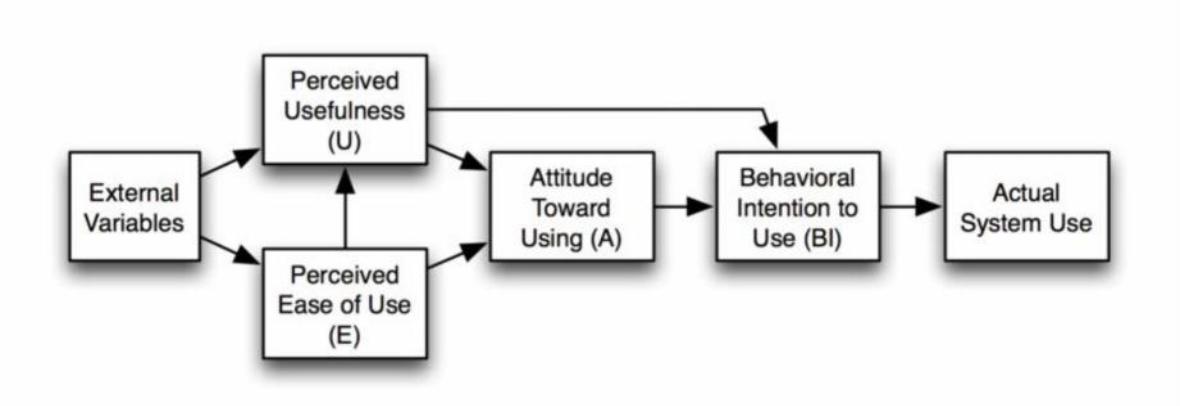
Several theoretical models can help explain the use of ERP systems in modern organizations, one such theoretical perspective is the Technology Acceptance Model (TAM). The TAM was advanced by Davis (1989), cited in Mekic & Ozlen (2014), when he explained that people will adopt a technological application if they deem it useful for them. This means that there is a propensity for human beings to adopt a technological application if that technologic is perceived to have value or is useful for job performance and it is also easy to use.

According to Davis (1989), TAM is the specification of causal association between the design features of a system, perceived usefulness, ease of use and attitudes towards use of the technology as well as actual behavior. As such, four aspects to the TAM are relevant to ERP use in firms.

According to Lee, Kim and Choi, (2012), PU implies the extent to which users anticipate the adoption of a given technology to facilitate their job performance while PEOU refers to the degree to which consumers deem the use of technology to be easy to use. Tsai, Wang and Lu (2011) explains that these two components influence the users' attitude regarding the use of a given technology. Lee, *et al* (2012) adds that PU and the latter (attitude) have a bearing on the users' behavioral intention to use a given technology. Tsai (2012) asserts that BI implies the users' conscious intentions to use or not to use a given technology in the future while external variables are the externally controllable factors that influence the

individuals' PU and PEOU as well as the intention to use or not to use a given technology (Mekic & Ozlen, 2014).

Figure 2.1: The Main Components of TAM



Source: Lee, et al., (2012).

Thus, from the hypothesis of the TAM and with respect to the use of ERP systems in firms, the system is deemed to have the usefulness value of the adopting firms. According to Awwad, *et al.*, (2013), most firms adopting the ERP system consider the systems to be of significance importance in boosting the financial performance of the firm. Garcıa-Sanchez and Perez-Bernal (2007) asserts that ERP system have an important role in the facilitation of various organizational operations including management process, sales and production, product development and human resource management. This implies that TAM helps account for the use of ERP system in firms to some extent. According to Shuhaimi (2016), firms consider the ERP system to have a financial performance vale for the firm hence their propensity to adopt the system.

2.5.4 Balance Scorecard Model as a measure of Firm Financial Performance

The Balance Scorecard developed by Kaplan and Norton (1992) is a performance management approach that focuses on the provision of information to management to assist strategic policy formulation and achievement. It emphasizes the need to provide the user with a set of information which addresses all relevant areas of performance in an objective and unbiased fashion.

The inclusion of non-financial information alongside financial information has become known as the balance scorecard approach associated with Kaplan and Norton (1992).The contents of a balanced scorecard will include the following measures; profitability (financial perspective), customer satisfaction (customer perspective), innovation (innovation and learning perspective), and internal efficiency (internal business perspective).By providing all this information in a single report, management is able to assess the impact of particular actions on all perspectives of the company's activities.

Determining the specific items to include in a balanced scorecard requires a business to examine its operation carefully. In order to address the following three questions: What are the critical success factors? What performance measures can be used to monitor attainment against the critical success factors? What changes must be made to organizational processes in order to facilitate the improvement of performance against the critical success factors?

The concept of the Balanced Scorecard is that no one measure of performance can evaluate the performance of an organization. After studying twelve corporations in 1994, Kaplan and Norton found the traditional measurers of performance to be deficient in providing guidance to management operating in a competitive environment. Realizing this need for a balanced measurement system, Robert S. Kaplan and D. P Norton developed the Balanced Scorecard system.

Balanced Scorecard links the short-term operational goals of an organization to its long-term objectives and strategy forcing control and monitoring of day to day operations. It defines the entire road map of lead indicators for achieving the goals and constantly reveals what is happening in an organization.

They proposed the following main areas of performance measurement; Financial perspective which considers financial performance using measures such as gross profit, Return on Investments (ROI), and Net Present Value (NPV). Customer perspective which considers customer's perception of the organization using measures such as customer satisfaction. Internal business processes which considers strengths and weaknesses in the business process to come up with ways to improve the work process. Measures such as error rate, ability to meet deadlines among others are used in this perspective. Learning and growth which considers innovation by the organization. Measures used include number of new products introduced during the year, time taken to develop next generation product etc.

BSC therefore emphasizes on progress and improvement rather than meeting any specific standards. It starts with defining the mission, outlining the strategies to achieve the mission, understanding the core customer requirement, defining the internal business processes and assessing the organizational infrastructure needed to achieve the objectives. The Balanced Scorecard therefore is a more inclusive and strategic performance evaluation model that continually tests the theories underlying management's strategy and judgments.

2.6 Summary of Literature

The body of knowledge available in the literature about ERP systems is mature and several disciplines using different methods have contributed to it (Schlichter & Kraemmergaard, 2010). Thus, while there is a rich body of literature on ERP adoption and implementation, there is limited research on post-implementation effects and benefits such as flexibility, agility, process innovation, and competitive advantage (Liang, Saraf, Hu, & Xue, 2007; Seddon et al., 2010).

According to Sun, Bhattacherjee, and Ma (2009) current IT usage models do not venture into the outcomes of usage. But without studying outcomes, it cannot be known if IT investments are successful or not (Sun et al., 2009). Thus, considering the investments in ERP systems and the significant risk of failure, it is important for firms to understand the impact of ERP systems on firm financial performance in the current dynamic business environment.

Given the limited number of studies on the post-implementation effects of enterprise systems (Peng & Nunes, 2009) and limited understanding of the relationship between ERP systems and firm performance (Nazir & Pinsonneault, 2012), this study aimed to fill this research gap.

No known research has been undertaken on the influence of Enterprise Resource Planning systems on financial performance of Motor Industry in Kenya. This study therefore sought to bridge this knowledge gap. The survey sought to achieve its objectives by answering the question, what is the effect of Enterprise Resource Planning finance module systems on Financial Performance of Motor Industry in Nairobi, Kenya?

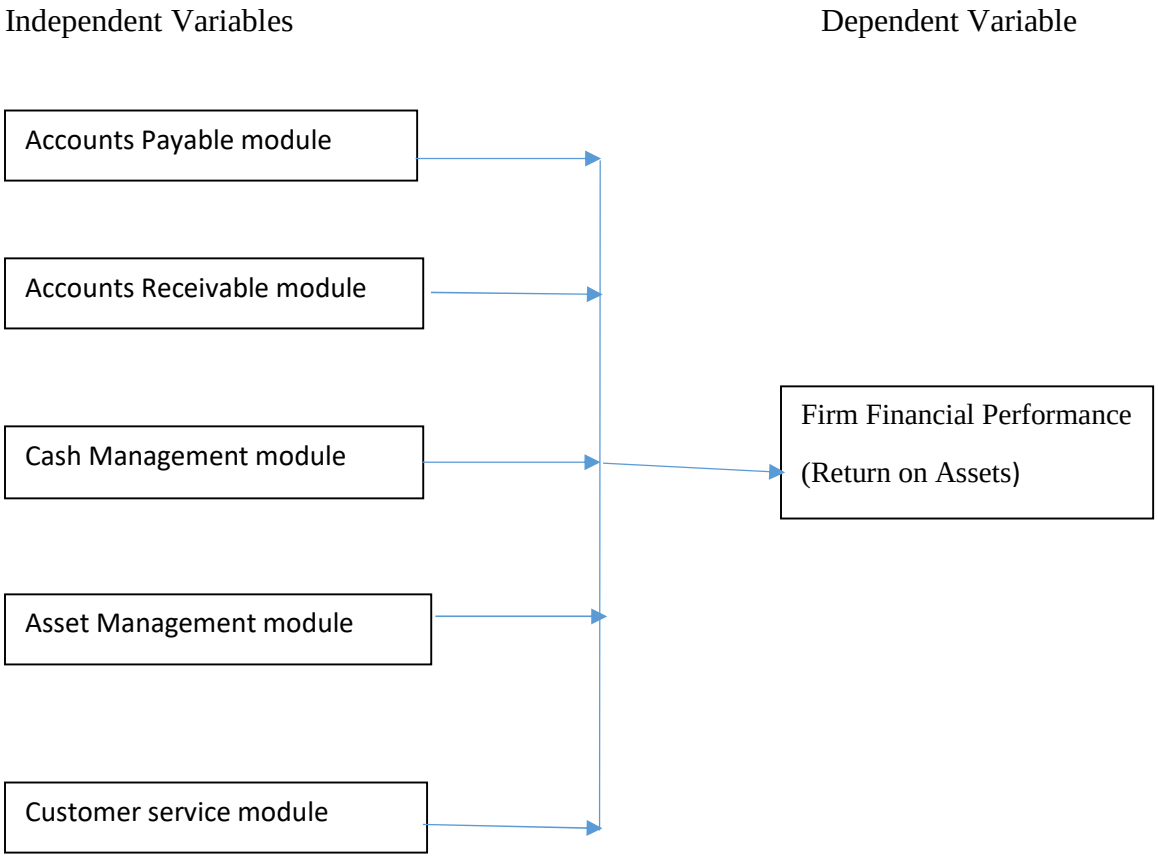
2.7 Conceptual framework

Conceptual framework is a graphical depiction of interrelationship between concepts and constructs. The presumed cause is called independent variable (IV) or the predictor and the presumed effect is called the dependent variable (DV) or the criterion. In this study a minimum of five independent variables and one dependent variable were singled out based on the researcher's field of study.

The importance of Enterprise Resource Planning system is a packaged business software system that lets an organization automate and integrate most of its business processes, share common data and practices across the enterprise and produce and access information in a real – time environment leading to a competitive advantage and superior profitability. Enterprise Resource Planning system implementation and use would appear in Accounts

Payable, Accounts Receivable, Cash Management, Asset Management and customer service which influences firm financial performance.

Figure 2.2: Conceptual Framework



Source: Author (2019)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methods and processes that was followed by the researcher to conduct the study. This section outlines the study's research design, target population, data collection instrumentation, testing for validity and reliability, data collection procedure and methods of data analysis and presentation of results. It also stipulates the limitations of the study and the ethical considerations observed in this study.

3.2 Research design

Research design is the pillar and structure of investigation so conceived as to obtain answers to research questions. The main aim of the researcher was to collect data on effect of ERP finance module systems on financial performance of Motor sector in Kenya. Data collection was based on the independent variables with aim of establishing their influence on the financial performance of Motor sector in Kenya. This study adopted explanatory research design. This design is chosen because it applied closely to the research objectives of this study. As the researcher seeks to explain the relationship between variables, explanatory research design is viewed as the most appropriate. A researcher has an explanatory focus if he seeks to explain why as opposed to just describing what happened (Cooper & Schindler, 2013). Explanatory research design measures the extent of relationships, and the nature of functional relationship between different sets of variables. The relationship between the independent and dependent variables can be studied in detail

using an explanatory research design (Cooper & Schindler, 2013). This makes explanatory research design more useful in detailing the impact of one variable over another.

3.3 Target population

This study comprised of staff from three major motor companies in Kenya namely; Simba Corporation Limited, General Motor Company and Toyota Kenya Limited. In assessing the effect of Enterprise Resource Planning finance module systems on the financial performance of Motor Industry in Nairobi, Kenya, the researcher targeted a population size of 142 people who use the ERP systems in the three motor companies. The entire population was studied and hence no sampling was required. The staffs were selected from three major departments namely; Finance and Accounts, Imports and Information Computer Technology. These departments were targeted because they are directly or indirectly involved in the process of ERP systems usage in financial operations of the companies. The ICT department is entrusted with the task of research, innovation and consolidation of ERP system process across the entire company.

Table 3.1 The stratification of target population of selected companies by departments

Department	**Number of employees**			**Total**	**Percentage (%)**
	SCL	**GM**	**TOYOTA**		
Finance & Accounts	39	39	27	**105**	74
Imports	7	5	4	**16**	11
ICT	10	4	7	**21**	15
Total	**56**	**48**	**38**	**142**	**100**

Source: Author (2019)

3.4 Data collection instruments and procedures

3.4.1 Data collection

A questionnaire with structured and unstructured questions was used to collect data. The questionnaire had standardized questions to ensure all respondents reply to same questions in a defined manner. A questionnaire is preferred because it saves time and provides the same set of questions to various persons.

The questionnaires were delivered by hand for respondents in proximity and by email to respondents in long distances. The researcher made clarifications on issues that required to be clarified. The respondents were thereafter left with the questionnaire to fill in and were collected by the researcher after a few days. All data collection was carried out by the researcher. Two researcher assistants were engaged to help in data collection.

3.4.2 Data Measurements

Data measurement is a way in which variables are defined and categorized. Each measurement has certain properties which in turn determine the operationalization for use in certain statistical analyses. Operationalization seeks to give meaning to a concept by specifying the necessary operations to measure it (Zikmund, 1997). Study variables operationalization enables the scholar to mete the variables quantitatively to aid in testing the hypothesis that have been formulated. Research objectives are the basis in which study variables are operationalized. According to Kothari (2004) in a Likert Scale, respondents are asked to reply to each question in terms of degrees, mainly five. The Likert scale assigns a value to each of the required response indicating the agreement or disagreement with totals being added to measure the respondents' attitude towards the statement.

3.4.3 Dependent Variable

Firm financial performance of Motor Companies in Kenya as the dependent variable was operationalized in a 5 Point Likert type scale with operational indicator being Return on Assets to Motor Companies.

3.4.4 Independent Variable

In this study, ERP systems usage on Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer Service were operationalized in a 5 Point Likert type scale.

The procedures on operationalization of study variables measurements are explained in the below table 3.2

Table 3.2: Operationalization of Study Variables measurements

Variable/Nature	Operational Indicators	Measure
Firm Financial Performance – Dependent	Indicators: Return on Assets to Motor Companies.	Ratio scale 5 -point Likert type scale
Accounts Payable – Independent	**ERP systems Usage on Accounts Payable (AP):** Processing of suppliers' invoices, AP invoices matching, recording of AP transactions, facilitation of netting off of AP and AR and payment to suppliers.	Ratio scale 5 -point Likert type scale
Accounts Receivable – Independent	**ERP systems Usage on Accounts Receivable (AR):** Billing/invoicing for goods and services, production of customers statements, receipting of payments received, matching of AR invoices and payment receipts, recording of AR transactions and production of ageing analysis of customer debts.	Ratio scale 5 -point Likert type scale
Cash Management – Independent	**ERP systems Usage on Cash Management:** Reduction in (documentation, administrative, procurement and technology i.e. IT) costs, increase in frequency of revenue collection and facilitation of bank reconciliations.	Ratio scale 5 -point Likert type scale
Asset Management – Independent	**ERP systems Usage on Asset Management:** Maintenance of accurate asset register, automatic assets depreciation calculation and posting to finance, increased asset	Ratio scale 5 -point Likert type scale

	availability/service reliability, increased labor productivity and reduction in maintenance cost/service cost.	
Customer service – Independent	**ERP systems Usage on Customer service:** Service quality, interactive customer service, enhanced responsiveness to customers, reduction in number of customer complaints, maintenance of customers data base and End Users education and training.	Ratio scale 5 -point Likert type scale

Source: Author 2019

3.5 Data analysis

After data collection, the filled in and returned questionnaires was edited for completeness. Quantitative data derived from respondents was coded into the different factors and sectors and analyzed through Statistical Package for Social Science (SPSS) version 23.

Both descriptive and inferential statistics was used to analyse the data. Descriptive analysis was conducted on primary data by finding mean and standard deviations which was used as measures of central tendency and dispersion respectively. The researcher also used inferential statistics specifically linear regression to analyse the data.

A multivariate analysis was undertaken through multiple linear regression model to assess whether there's relationship between independent variables and dependent variable and inference drawn for the whole study. This helped in forming a better idea about the significance of the problem under consideration. The data is presented using tables.

The Multiple Linear Regression Model

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + e$$

Y = Firm financial performance measured by Return on Assets

X_1= Accounts Payable ERP systems usage

X_2= Accounts Receivable ERP systems usage

X_3 = Cash Management ERP systems usage

X_4= Asset Management ERP systems usage

X_5= Customer service ERP systems usage

β_0 = gradient of the regression measuring the amount of change in Y associated with a unit change in X

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = coefficients of independent variables

e = Error term within a confidence interval of 5%

3.6 Statistical Assumptions

Statistical tests rely upon certain assumptions about the variables used in the analysis. Gujarati and Sangeetha (2013), opine that when these assumptions are not met the results may not be valid. Prior to data analysis, the following assumptions for linear regression will be checked: Multicollinearity, linearity, normality and heteroscedasticity.

3.6.1 Linearity

Linearity of data means that the values of the outcome variable for each increment of a predictor variable lie along a straight line. Linearity is an important association between the dependent and the independent variables. Multiple linear regressions can only accurately estimate the relationship between dependent and independent variables if the relationships are linear in nature (Gujarati &Sangeetha, 2013).

Absence of a linear relationship between independent variables and the dependent variable leads to the results of the regression linear analysis to under-estimate the true relationship.

3.6.2 Multicollinearity

Multicollinearity occurs when there is a high degree of correlation between independent variables. Multicollinearity increases the standard errors of the coefficients and thus makes some variables statistically not significant while they should otherwise be significant (Gujarati &Sangeetha, 2013).

3.6.3 Normality

Gujarati and Sangeetha (2013) propose that regression analysis assumes that data is normally distributed. Non-normally distributed data can distort relationships and significance tests and hence statistical inference. Data that is not normally distributed may lead to inaccuracy of results.

3.6.4 Heteroscedasticity

Heteroscedasticity occurs when the variance of the errors of the dependent variable are not the same across the data. Heteroscedasticity occurs when there is variance of the error term. It occurs when the variance of errors differs at different values of the independent variables. However, heteroscedasticity has little effect on significance tests.

3.7 Pilot Test

The researcher conducted a pilot study in Subaru Kenya Limited before actual data collection. The pilot data was not included in the actual study and was only used for the purposes of allowing for pre-testing of the research instrument. Pre-testing of the questionnaire provides the opportunity to refine the questionnaire by revealing errors in the questions, sequence and design and see how the questionnaire performs under actual conditions (Churchill and Iacobucci, 2002). Piloting was instrumental in enhancing the instrument's validity and reliability as well as ensuring familiarity with the administrative procedures in data collection. The results from the Pilot test helped the researcher to correct inconsistencies arising from the instruments, which ensured that they measure what it ought to measure.

3.7.1 Reliability

Reliability and validity are means by which research instruments are evaluated. Eriksson and Kovalainen (2008) asserts that reliability is the extent to which a measure, procedure or instrument yields the same result on repeated trials. Mugenda and Mugenda (2003) defines reliability as a measure of the degree to which a research instrument yields

consistent results or data after repeated trials. Three methods are widely used in testing reliability in research which includes the “test re-test” method, the “split-halves” method and the “internal-consistency” method. The researcher used “split-halves” and “internal consistency” method to measure reliability in this study. “Split-halves” method was employed in the above-mentioned pilot test of twenty respondents in Subaru Kenya Limited. The questionnaires were numbered from 1 to 20 and the two halves obtained by separating the even numbered questionnaires from the odd once. The two halves of the responses were compared to each other and similarities identified. The pilot test results revealed that there were more similarities which were exhibited between the two halves and each question, hence signifying greater reliability. According to Zikmund (2003), the “split-halves” method is the most suitable and basic method for checking reliability when the study have a large amount of raw data.

Internal consistency method was tested using Cronbach’s Alpha. Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. A “high” value of alpha is often used as evidence that the items measure an underlying (or latent) construct (Warmbrod, 2001). Reliability check of internal consistency through Cronbach’s alpha has alpha values lying between zero and one with zero being no internal consistency and one being complete internal consistency. A predetermined threshold of 0.7 is considered acceptable. That is, exhibition of values above 0.7 will indicate presence of reliability while values below will signify lack of reliability of the research instrument.

The researcher tested the level of inter – item consistency reliability to ensure that there was consistency of respondents' answers to all items measured using Statistical Package for Social Science and the results are exhibited on the below table 3.3.

Table 3.3: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.942	.937	44

Source: Author 2019

The above table clearly indicates Cronbach's alpha is **0.942**, which indicates a high level of internal consistency for all our scale coefficients since it is above 0.60 implying that the scales used to measure the variables were consistent and therefore reliable.

3.7.2 Validity

Borg and Gall (1989) defines validity as the degree by which the sample of test items represents the content the test is designed to measure. The best test of validity of any findings is the extent to which it can be generalized to a wide range of situations and scenarios. This was in retrospect reflect how close it is to the reality. Content validity which the researcher employed in this study is a measure of the degree to which data collected using a particular instrument represents a specific domain or content of a particular concept. Mugenda and Mugenda (2003) contend that the usual procedure in assessing the content validity of a measure is to use a professional or expert in a particular field.

Since validity measures the extent to which the tool is likely to show the linking relationships of the variables of the study, a pilot study of 20 respondents drawn from Subaru Kenya Limited to test the validity of the research instrument was conducted in order to establish if the targeted respondents would answer questions without difficulty. The research tool was corrected in line with the feedback received from selected respondents. The validity content was conducted by asking three subject experts and the supervisor on the relevance of the research questions for the research objectives. Such opinions allowed modification of the instrument thereby enhancing validity. The study also assessed the responses and non-responses per question to determine if there is any technical dexterity with the questions asked.

3.8 Limitations of the study

This study covered three leading motor companies in Nairobi that had certain specific characteristics and therefore the results may not be generalized to other organizations in the other sectors. In addition, some respondents were unable to return the questionnaires due to their tight schedules at work but the response rate at 78.87% was excellent according to Mugenda and Mugenda (2003) hence the results and findings of this study are valid despite non responses from the few respondents.

Another challenge that was faced while carrying out this study was use of self – report data which easily triggered respondents' perception that the study was geared towards investigation purposes. To allay the fears, a Research License granted to the researcher by

National Commission for Science, Technology and Innovation together with an introductory letter from the university were presented as a way of confirming that the data being collected was solely meant for academic purposes and would be treated with confidentiality.

3.9 Ethical Considerations

The researcher maintained all ethical considerations while doing the study. First, the researcher obtained a Research License from National Commission for Science, Technology and Innovation to conduct this research. The participants were well advised of the purpose of the study and their consent sought prior to their participation in the study. Respondents was also informed that the study is voluntary and adequate measures shall be taken to protect confidentiality. Accuracy was adhered to in data collection, analysis, interpretation and reporting the findings. The research also maintained ethics in academic writing.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents the results of hypotheses testing and interpretation of the results. The general objective of the study was to determine the effect of Enterprise Resource Planning Finance Module systems on the Financial Performance of Motor Industry in Nairobi, Kenya. From the five specific objectives, a corresponding number of hypotheses were formulated for testing. Structured questionnaire along with various indicators of study variables were used to obtain the data that has been analyzed. In each of the variable of the study, the respondents were given five to six statements that were descriptive and presented on a five-point Likert scale and asked to state to what extent the statements applied in their firm. Demographic data was analyzed using descriptive statistics and presented in terms of mean, standard deviation and significance test. In order to establish the relationship and statistical significance, multiple linear regression analyses were performed at 95 percent confidence level (p-value = 0.05).

4.2 Response Rate

The population of the study comprised of 142 employees of the leading three Motor Companies in Kenya namely Simba Corporation Limited, General Motor Company and Toyota Kenya Limited drawn from three Departments namely Finance and Accounts, Imports and Information Communication Technology (ICT), however, 112 employees completed and returned the duly filled questionnaires, which was a response rate of 78.87 percent. This response rates were sufficient and representative and conforms to Mugenda

and Mugenda (2003) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. This commendable response rate was due to extra efforts that were made via personal calls and visits to remind the respondents to fill-in and return the questionnaires. The response rate is indicated on the below Table 4.1

Table 4.1 Response rate

	Number of Questionnaires	Percent	Cumulative Percent
Returned and valid	112	78.87	78.87
Not returned	30	21.13	100
Total	142	100	

Source: Field Data (2019)

4.3 Respondents' Demographic Profiles

The researcher found it important to establish the general information of the respondents since it forms the basis under which the study can rightfully access the relevant information. The investigation centred on this information of the respondents so as to classify the different outcome according to their knowledge and responses. In order to capture the general information of the respondent's issues such as gender, age bracket, work experience, department in the organisation and company of the respondent were captured in the first section.

4.3.1 Gender Distribution of the Respondents'

The study sought to establish the respondents gender distribution. The findings are as stipulated in Table 4.2.

Table 4.2 Gender Distribution of the Respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	71	63.4	63.4	63.4
	Female	41	36.6	36.6	100.0
	Total	112	100.0	100.0	

Source: Field Data (2019)

From the findings shown in Table 4.2 most of the respondents (63.4%) were males while 36.6% were females. This implies that both genders were fairly engaged in this research and therefore the findings of this research did not suffer from genders bias.

4.3.2 The age bracket of the respondent (in terms of years)

The research sought to establish the age bracket of the respondent (in terms of years). The findings are as stipulated in Table 4.3.

Table 4.3. The age bracket of the respondent (in terms of years)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Up to 25 years	10	8.9	8.9	8.9
	26-35 years	64	57.1	57.1	66.1
	36-45 years	30	26.8	26.8	92.9
	Over 45 years	8	7.1	7.1	100.0
	Total	112	100.0	100.0	

Source: Field Data (2019)

Table 4.3 shows that most of the respondents (57.1%) follow under the age bracket of 26-35 years, 26.8% under 36-45 years while 8.9% are under the age bracket of up to 25years and 7.1% follow under the age bracket of over 45 years. This indicates that the respondents in this research were mostly middle aged which is a true reflection of the working population in the country.

4.3.3 Work Experience

The research sought to establish respondents' working experience based on the number of years they have worked. The findings are as stipulated in Table 4.4.

Table 4.4 Years worked in the company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-5 years	44	39.3	39.3	39.3
	6-10 years	42	37.5	37.5	76.8
	11-15 years	17	15.2	15.2	92.0
	Over 15 years	9	8.0	8.0	100.0
	Total	112	100.0	100.0	

Source: Field Data (2019)

Table 4.4 shows that most of the respondents (39.3%) had worked in the motor companies for 0-5 years, 37.5% for 6-10 years while 15.2% had worked in motor companies for 11-15 years and 8% had worked in the motor companies for over 15 years. This illustrates that the respondents had worked in the motor companies for a long period to give credible information on the usage of an ERP system and the financial performance of the firms in the motor sector. It also depicts that the respondents were highly experienced owing to the many years they had worked in the motor companies.

4.3.4 Department of the respondent

The research also sought to establish the department of the respondents in their respective motor companies. The findings are as stipulated in Table 4.5.

Table 4.5 Department of the respondent

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Finance & Accounts	80	71.4	71.4	71.4
	Imports	15	13.4	13.4	84.8
	ICT	17	15.2	15.2	100.0
	Total	112	100.0	100.0	

Source: Field Data (2019)

From the study findings, most (71.4%) of the respondents in the motor companies were from Finance and Accounts department, 15.2% from Information Communication Technology (ICT) department and 13.4% from Imports department. This implies that majority of the respondents were from Finance and Accounts department and therefore were in a better position to give credible information on the usage of an ERP system and the financial performance of the firms in the motor sector owing to their knowledge and experience in financial aspects.

4.3.5 Name of the respondent's company

The research also sought to establish the motor company of the respondent in the motor sector. The findings are as stipulated in Table 4.6.

Table 4.6 Name of the respondent's company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Simba Corporation Ltd	55	49.1	49.1	49.1
	General Motors	34	30.4	30.4	79.5
	Toyota Kenya Ltd	23	20.5	20.5	100.0
	Total	112	100.0	100.0	

Source: Field Data (2019)

From the study findings, most (49.1%) of the respondents in the motor companies were from Simba Corporation Limited, 30.4% from General Motor Company and 20.5% from Toyota Kenya Limited. This reflects that Simba Corporation Limited had many of the respondents which could have been contributed because it's a holding company of six motor firms namely; Simba Colt Motors Limited, Simba Vehicle Rental Limited, Africa Fleet Management Solutions Limited, Bavaria Auto Limited, Xylon Motors Limited and Simba Caetano Formula Limited.

4.4 Descriptive Statistics

This section presented the descriptive statistics of the responses in the domains in the structured questionnaire. The mean and the standard deviation are used to show the closeness and the dispersion of the responses respectively.

4.4.1 Performance

Respondents were asked to rate the performance of their organization in the last three years based on the performance statements provided on a Likert scale of 1 to 5. Where 5 represented ‘Strongly Agree ’ and 1 ‘Strongly Disagree '. The performance domain had eleven performance statements/items. Mean and standard deviation were then computed for the performance statements as shown in Table 4.7.

Table 4.7 Performance Descriptive Statistics

Performance statement	N	Min	Max	Mean	Std. Dev.
Return on assets in our company is well above the industry average.	112	3	5	4.42	.514
Value added per employee in our company is well above the industry average.	112	1	5	3.70	.769
We consider our relations with suppliers to be excellent because we maintain genuine partnerships with them.	112	1	5	4.09	.717
We have long-term partner relationships with our suppliers.	112	1	5	4.15	.618
Productivity of employees is much higher than industry average.	112	1	5	3.64	.781
Employees feel very committed to the organization.	112	1	5	3.68	.830
Work costs per employee are well below the industry average.	112	1	5	3.51	.805
Work organization is efficient.	112	1	5	3.85	.808
We retain existing clients and manage to attract new ones.	112	1	5	4.07	.802
Reputation of our company in eyes of the customers has improved.	112	1	5	3.97	.875
The number of customer complaints has decreased.	112	1	5	3.67	.884
Valid N (listwise)	112				

Source: Field Data (2019)

Results presented in Table 4.7 show that the following performance statements were highly rated since respondents agreed that their respective motor companies had realized performance based on the statements; Return on Asset, long term partner relationship with suppliers, excellent relations with suppliers and retaining existing clients and attracting new ones with mean scores of 4.42, 4.15,4.09 and 4.07 respectively. However, the following performance statements were rated moderately by the respondent indicating that they were neutral as far as the statements were concerned; reputation of company in eyes of the customer has improved, Work organization is efficient, value added per employee is above the industry average, employees feel very committed to the organization, number of customer complaints has decreased, productivity of employees is higher than industry average and work cost per employee are below the industry average with mean scores of 3.97, 3.85, 3.70, 3.68, 3.65, 3.64, and 3.51 respectively. This implies that in overall the motor companies' performance is good.

4.4.2 Accounts Payable

The respondents were asked to rate the influence that the ERP system usage on Accounts Payable had on performance of motor companies on a scale of 1 to 5. Where 5 represented 'Strongly Agree' and 1 'Strongly Disagree'. The Accounts Payable domain had five Likert items. Mean and standard deviation were then computed for the variable as depicted in Table 4.8.

Table 4.8 Descriptive Statistics on Accounts Payable ERP systems usage

Accounts Payable statement	N	Minimum	Maximum	Mean	Std. Deviation
ERP system facilitates efficient processing of suppliers/vendors invoices in our organization.	112	1	5	4.15	.762
ERP system in our organization enables prompt accounts payable invoices matching.	112	1	5	4.02	.759
ERP system facilitates prompt recording of accounts payable transactions in our organization.	112	1	5	4.04	.684
ERP system in our organization provides for netting off of accounts payable against accounts receivable.	112	1	5	3.76	.893
ERP system in our organization facilitates prompt payment to our suppliers/vendors.	112	1	5	3.94	.774
Valid N (listwise)	112				

Source: Field Data (2019)

Results presented in Table 4.8 indicate that the following Accounts Payable statements in regard to ERP systems usage were highly rated since respondents agreed that their respective motor companies had realized performance based on the statements; ERP systems facilitation of efficient processing of suppliers/vendors invoices, ERP systems facilitation of recording of accounts payable transactions and ERP systems enablement of accounts payable invoices matching with mean scores of 4.15, 4.04 and 4.02 respectively. However, the following two Accounts Payable statements as far as ERP systems usage is concerned were rated moderately in that the respondents indicated that they were neutral regarding to the Accounts Payable statements; ERP systems facilitation of payment to suppliers/vendors and ERP systems facilitation of netting off accounts payable against accounts receivable with mean scores of 3.94 and 3.76 respectively. This implies that in overall the respondents affirmed that the ERP systems usage on Accounts Payable supported performance in their motor companies.

4.4.3 Accounts Receivable

The respondents were asked to rate the influence that the ERP system usage on Accounts Receivable had on performance of motor companies on a Likert scale of 1 to 5. Where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. The Accounts Receivable domain had six Likert items/statements. Mean and standard deviation were then computed for the variable as depicted in Table 4.9.

Table 4.9 Descriptive Statistics on Accounts Receivable ERP systems usage

Accounts Receivable statement	N	Minimum	Maximum	Mean	Std. Deviation
ERP system in our organization enables prompt billing/invoicing for goods and services to our customers.	112	1	5	4.04	.676
ERP systems in our organization produces prompt customer statements.	112	1	5	3.57	1.002
ERP system in our organization facilitates efficient receipting of payments received from our customers.	112	1	5	3.97	.741
ERP system in our organization enables prompt matching of accounts receivable invoices and payment receipts from customers.	112	1	5	3.75	.915
ERP system facilitates prompt recording of accounts receivable transactions in our organization.	112	1	5	3.88	.720
ERP system in our organization provides ageing analysis of customers debts.	112	1	5	3.63	1.022
Valid N (listwise)	112				

Source: Field Data (2019)

Results presented in Table 4.9 depict that the following Accounts Receivable statement relating to ERP systems usage was highly rated since respondents agreed that their respective motor companies had realized performance based on the statement; ERP systems facilitation of billing/invoicing for goods and services to customers with a mean score of 4.04. The rest of five Accounts Receivable statements as far as ERP usage is concerned were rated moderately in that the respondents indicated that they were neutral in relation to the Accounts Receivable statements as follows; ERP systems facilitation of efficient receipting of payments received from customers, ERP system facilitation of prompt recording of accounts receivable transactions, ERP systems enablement of prompt matching of accounts receivable invoices and payment receipts from customers, ERP systems facilitation of ageing analysis of customer debts and ERP systems prompt production of customer statements with mean scores of 3.97, 3.88, 3.75, 3.63 and 3.57 respectively. This implies that in average the respondents affirmed that the ERP systems usage on Accounts Receivable supported performance in their motor companies.

4.4.4 Cash Management

The respondents were asked to rate the influence that the ERP system usage on Cash Management had on performance of motor companies on a Likert scale of 1 to 5. Where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. The Cash Management variable had six Likert items/statements. Mean and standard deviation were then computed for the variable as shown in Table 4.10.

Table 4.10 Descriptive Statistics on Cash Management ERP systems usage

Cash Management statement	N	Minimum	Maximum	Mean	Std. Deviation
ERP systems in our organization reduces documentation cost (i.e. paper usage).	112	1	5	3.52	.949
The ERP systems reduces administrative cost in our organization.	112	1	5	3.47	.880
ERP systems in our organization increases the frequency of revenue collection (i.e. debt collection and various receipts).	112	1	5	3.46	.889
The ERP systems in our organizations reduces procurement cost (i.e. cost of acquiring, buying goods, services or works from an external source).	112	1	5	3.28	.932
ERP systems reduces technology cost (i.e. IT cost) in our organization.	112	1	5	3.40	.954
ERP systems facilitates bank reconciliations in our organization.	112	1	5	3.48	1.048
Valid N (listwise)	112				

Source: Field Data (2019)

Results presented in Table 4.10 show that the following Cash Management statements relating to ERP systems usage were moderately rated since respondents were neutral that their respective motor companies had realized performance based on the statements; ERP systems reduces documentation cost, ERP systems facilitates bank reconciliations, ERP systems reduces administrative cost, ERP systems increases the frequency of revenue collection, ERP systems reduces technology (IT) cost and ERP systems reduces procurement cost with mean scores of 3.52, 3.48, 3.47, 3.46, 3.40 and 3.28 respectively. This reflects that in average the respondents affirmed that the ERP systems usage on Cash Management supported performance in their motor companies.

4.4.5 Asset Management

The respondents were asked to rate the influence that the ERP system usage on Asset Management had on performance of motor companies on a Likert scale of 1 to 5. Where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. The Asset Management domain had five Likert items/statements. Mean and standard deviation were then computed for the variable as shown in Table 4.11.

Table 4.11 Descriptive Statistics on Asset Management ERP systems usage

	N	Minimum	Maximum	Mean	Std. Deviation
ERP system maintains accurate asset register in our organization.	112	1	5	3.44	.975
ERP system in our organization facilitates automatic assets depreciation calculation and posting to finance.	112	1	5	3.45	.938
ERP system in our organization enables increased asset availability/service reliability.	112	1	5	3.46	.939
ERP system asset management increases labor productivity in our organization.	112	1	5	3.40	.915
ERP system asset management reduces maintenance cost/service cost in our organization.	112	1	5	3.41	.906
Valid N (listwise)	112				

Source: Field Data (2019)

Results presented in Table 4.11 indicate that the following Asset Management statements as far as ERP systems usage is concerned were moderately rated since respondents were neutral that their respective motor companies had realized performance based on the statements; ERP systems enablement in increased asset availability/service reliability, ERP systems facilitation of automatic assets depreciation calculation and posting to finance, ERP systems maintenance of accurate asset register, ERP systems asset management reduces maintenance cost/service cost and ERP systems asset management increases labor productivity with mean scores of 3.46, 3.45, 3.44, 3.41 and 3.40 respectively. This implies that in average the respondents moderately affirmed that the ERP systems usage on Asset Management supported performance in their motor companies.

4.4.6 Customer service

The respondents were asked to rate the influence that the ERP system usage on Customer Service had on performance of motor companies on a Likert scale of 1 to 5. Where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. The Customer service variable had six Likert items/statements. Mean and standard deviation were then computed for the variable as reflected in Table 4.12.

Table 4.12 Descriptive Statistics on Customer service ERP systems usage

Customer service statement	N	Minimum	Maximum	Mean	Std. Deviation
ERP system in our organization improves service quality through customer direct feedback.	112	2	5	3.43	.898
The ERP system in our organization provides a platform for more interactive customer service.	112	1	5	3.46	.929
ERP system in our organization manage to enhance responsiveness to customers.	112	1	5	3.42	.974
The ERP system in our organization helps to reduce the number of customers' complaint.	112	1	5	3.32	.932
ERP system in our organization maintains a data base for our customers.	112	1	5	3.83	.793
Our organization effectively carries out End User education and training in ERP systems implementation leading to their operational efficiency.	112	1	5	3.50	1.057
Valid N (listwise)	112				

Source: Field Data (2019)

The findings presented in Table 4.12 show that the following Customer service statements relating to ERP systems usage were moderately rated depicting that respondents were neutral that their respective motor companies had realized performance based on the statements; ERP systems maintains customers data base, Motor companies effectively carries out End User education and training in ERP systems implementation leading to their operational efficiency, ERP systems provides a platform for more interactive customer service, ERP systems improves service quality through customer direct feedback, ERP systems manage to enhance responsiveness to customers and ERP systems helps to reduce the number of customers' complaint with mean scores of 3.83, 3.50, 3.46, 3.43, 3.42 and 3.32 respectively. This implies that in aggregate, the respondents moderately affirmed that the ERP systems usage on Customer service had on average supported performance in their motor companies.

4.4.7 Overall rating of independent variables

The respondents were asked to rate the importance that the ERP system usage on Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer Service had on enhancing performance of motor companies on a Likert scale of 1 to 5. Where 1 = Not Important, 2 = Slightly Important, 3 = Moderately Important, 4 = Important, 5 = Very Important. The independent variables in this study are five in number. Mean and standard deviation were then computed for the variables as reflected in Table 4.13.

Table 4.13 Descriptive Statistics Overall rating of independent variables ERP systems usage on their importance in enhancing performance in motor companies

Independent variable	N	Minimum	Maximum	Mean	Std. Deviation
Accounts Payable	112	3	5	4.14	.656
Accounts Receivable	112	3	5	4.39	.575
Cash Management	112	3	5	4.12	.761
Asset Management	112	3	5	4.08	.773
Customer service	112	2	5	4.06	.751
Valid N (listwise)	112				

Source: Field Data (2019)

The research findings presented in Table 4.13 show that Accounts Receivable, Accounts Payable, Cash Management, Asset Management and Customer service in relation to ERP systems usage were highly rated as important by the respondents with mean scores of 4.39, 4.14, 4.12, 4.08 and 4.06 respectively. This implies that in overall the respondents affirmed that the ERP systems usage on all five independent variables was important in enhancing the performance in the motor companies.

4.5 Correlation Analysis

The current study sought to determine the nature of correlation relationship in ERP systems usage between independent variables which were: Accounts Payable, Accounts

Receivable, Cash Management, Asset Management and Customer service and dependent variable financial performance of Motor Industry in Nairobi, Kenya. A bivariate correlation analysis between dependent variable and independent variables was conducted using Statistical Package for Social Science (SPSS) and the results of correlations are shown in Table 4.14

Table 4.14 Correlation Analysis

		Return on assets	Accounts Payable	Accounts Receivable	Cash Management	Asset Management	Customer service
Return on assets	Pearson Correlation	1	.570**	.596**	.572**	.573**	.545**
	Sig. (2-tailed)		.000	.000	.000	.000	.000
	N	112	112	112	112	112	112
Accounts Payable	Pearson Correlation	.570**	1	.662**	.397**	.475**	.183
	Sig. (2-tailed)	.000		.000	.000	.000	.053
	N	112	112	112	112	112	112
Accounts Receivable	Pearson Correlation	.596**	.662**	1	.175	.597**	.360**
	Sig. (2-tailed)	.000	.000		.065	.000	.000
	N	112	112	112	112	112	112
Cash Management	Pearson Correlation	.572**	.397**	.175	1	.182	.191*
	Sig. (2-tailed)	.000	.000	.065		.055	.043
	N	112	112	112	112	112	112
Asset Management	Pearson Correlation	.573**	.475**	.597**	.182	1	.488**
	Sig. (2-tailed)	.000	.000	.000	.055		.000
	N	112	112	112	112	112	112
Customer service	Pearson Correlation	.545**	.183	.360**	.191*	.488**	1
	Sig. (2-tailed)	.000	.053	.000	.043	.000	
	N	112	112	112	112	112	112

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Field Data (2019)

The correlation results in table 4.14 indicate that there is a positive correlation relationship between ERP system usage in Accounts Payable (0.570), Accounts Receivable (0.596), Cash Management (0.572), Asset Management (0.573), Customer service (0.545) and financial performance of Motor Industry in Nairobi, Kenya.

4.6 Multiple Regression Analysis

Multiple regression analysis is a statistical test that allows a researcher to examine how multiple independent variables relate to one dependent variable. Once the relationship is established, you can take information about all the independent variables and use it to make much more powerful and accurate predictions about why things are the way they are. The current study sought to determine the relationship in ERP systems usage between independent variables which were: Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer service and dependent variable financial performance of Motor Industry in Nairobi, Kenya. Regression analysis was conducted using Statistical Package for Social Science (SPSS) and the results of regression findings are as shown in Table 4.15

Table 4.15 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.726[a]	.527	.505	.361

a. Predictors: (Constant), Customer service, Accounts Payable, Cash Management, Asset Management, Accounts Receivable

Source: Field Data (2019)

The Multiple Regression analysis results in Table 4.15 reveals that there's a strong relationship (R=0.726) that is, 72.6% on ERP systems usage between independent variables which were; Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer service and dependent variable financial performance of Motor Industry in Nairobi, Kenya. The R-Square value of study was 0.527 implies that ERP systems usage based on Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer service account for 52.7% of the total variance in financial performance of Motor Industry in Nairobi, Kenya.

4.6.1 Analysis of Variance

Analysis of Variance (ANOVA) was carried out to test the regression model's goodness of fit. ANOVA recorded a significance level of 0.01% which implies that the analytical model has goodness of fit and therefore reliable in establishing the effect of ERP systems usage on Accounts Payable, Accounts Receivable, Cash Management, Asset Management

and Customer service on financial performance of Motor Industry in Nairobi, Kenya. The results are as shown in Table 4.16

Table 4.16 Analysis of Variance

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	15.441	5	3.088	23.658	.000[b]
	Residual	13.836	106	.131		
	Total	29.277	111			
a. Dependent Variable: Return on assets in our company is well above the industry average						
b. Predictors: (Constant), Customer service, Accounts Payable, Cash Management, Asset Management, Accounts Receivable						

Source: Field Data (2019)

4.6.2 Coefficients of Determination

At 95% confidence level regression coefficients revealed that ERP systems usage based on Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer Service have a combined positive effect on the financial performance of Motor Industry in Nairobi, Kenya. The results are as shown in Table 4.17.

Table 4.17 Coefficients of Determination

Coefficients[a]					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.248	0.311		4.015	.000
Accounts Payable	0.168	0.077	0.214	2.165	0.033
Accounts Receivable	0.206	0.09	0.231	2.282	0.024
Cash Management	0.116	0.05	0.172	2.307	0.023
Asset Management	0.140	0.06	0.210	2.312	0.023
Customer service	0.128	0.054	0.188	2.378	0.019
a. Dependent Variable: Return on assets in our company is well above the industry average					

Source: Field Data (2019)

The findings reveal that ERP systems usage on; Accounts Payable (t=2.165, p= 0.033), Accounts Receivable (t=2.282, p= 0.024), Cash Management (t= 2.307, p= 0.023), Asset Management, (t= 2.312, p= 0.023) and Customer service (t= 2.378, p= 0.019) produced statistically significant values (high t-values, $p < 0.05$). This indicates that ERP systems usage on Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer Service have a positive and statistically significant effect on the financial performance of Motor Industry in Nairobi, Kenya.

The equation for the multiple regression model is expressed as:

$$\mathbf{Y = 1.248 + 0.214X_1 + 0.231X_2 + 0.172X_3 + 0.210X_4 + 0.188X_5}$$

Where:

Y– Financial Performance of Motor Industry in Nairobi, Kenya (the dependent variable)

X_1- Accounts Payable ERP systems usage,

X_2- Accounts Receivable ERP systems usage,

X_3- Cash Management ERP systems usage,

X_4- Asset Management ERP systems usage,

X_5- Customer service ERP systems usage.

Constant =1.248 shows that if at all there was no ERP systems usage on Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer service, Financial Performance of Motor Industry in Nairobi, Kenya would be at just 1.248.An increase in ERP systems usage on Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer Service by 0.214, 0.231, 0.172, 0.210 and 0.188 respectively leads to a unit improvement in Financial Performance of Motor Industry in Nairobi, Kenya. For the purpose of estimating the regression equation, the researcher estimated the stochastic error term of the model was insignificant.

4.6.3 Hypothesis Testing

Hypothesis testing is a formal procedure for determination of whether to accept or reject statistical hypothesis. In this study, p-value was used to determine the individual significance of the variables. P-value helps determine the significance and strength of evidence of the tabulated results. As such, p-values represented the point at which a

decision as to whether to confirm the hypothesis or not was made. Ranging from 0-1, a small p-value, normally less than 0.05($p < 0.05$) provides a strong evidence against null hypothesis and thus null hypothesis is rejected. On the other hand, a large p value typically greater than 0.05 ($p > 0.05$) indicates a weak evidence against null hypothesis and you fail to reject the null hypothesis.

Findings indicated a statistically significant relationship between all the variables tested and financial performance. Specifically, result indicate statistically significant effect of ERP systems usage on Accounts Payable ($p = 0.033$), Accounts Receivable ($p = 0.024$), Cash Management ($p = 0.023$), Asset Management ($p = 0.023$), and Customer service ($p = 0.019$). The results findings of hypotheses testing are presented in the below Table 4.18.

Table 4.18 Summary Results of Hypotheses Testing

Hypothesis	**P-value**	**Findings**
H01: There is no relationship between Accounts Payable module and the financial performance of Motor Industry in Nairobi, Kenya.	0.033	Reject H01
H02: There is no relationship between Accounts Receivable module and the financial performance of Motor Industry in Nairobi, Kenya.	0.024	Reject H02
H03: There is no relationship between Cash Management module and the financial performance of Motor Industry in Nairobi, Kenya.	0.023	Reject H03
H04: There is no relationship between Asset Management module and the financial performance of Motor Industry in Nairobi, Kenya.	0.023	Reject H04
H05: There is no relationship between Customer service module and the financial performance of Motor Industry in Nairobi, Kenya.	0.019	Reject H05

4.7 Qualitative Analysis

The respondents were asked to enumerate the main challenges faced by their respective motor companies during ERP systems implementation, development and usage. The following are the common answers given by the respondents in the open-ended question.

The respondents said that there were huge investments in ERP system development, implementation and costs add-ons during usage. There was also hurried ERP systems End Users training leading to inadequate/insufficient training to understand what the system can do – hence users only know the basics therefore contributing to difficult in ease and convenience of usage in initial stages. The respondents also said that there was fear of change leading to resistance to change and user reluctance to embrace/ adopt ERP system fully. Senior management were not fully involved/ interested in the process. Another concern among the respondents was the knowledge gap concerning the capabilities of ERP systems leading to partial or underutilization. This means that there's low understanding of what the new system offers leading to limited usage and inability to maximize new ERP system potential. This goes in hand with lack of adequate user support during implementation due to few experts in ERP system usage and lack of onsite support for the ERP systems locally.

The respondents also quoted that there was failure to involve end users in design stage to enable incorporation of all organizational needs in the ERP system which leads to mismatch between the designers and end users and further to conflict between departments.

In addition, there was rigidity in adjusting the ERP system to suit specific business needs/requirements.

The respondents also said that there was User access limitations and data migration or transfer from old system was not smooth and had hiccups due to direct change over. Lack of ERP systems integration with other systems was also said to be a challenge faced during ERP systems implementation and usage.

CHAPTER FIVE

SUMMARY OF FINDING, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of findings, conclusion and recommendations of the study where the objective was to determine effect of Enterprise Resource Planning finance module systems on financial performance of Motor Industry in Nairobi, Kenya. The chapter also presents recommendations for practice and policy as well as suggestions for further research.

5.2 Summary of findings

The objective of the study was to determine effect of Enterprise Resource Planning finance module systems on financial performance of Motor Industry in Nairobi, Kenya. The data collected from all the three leading motor companies namely: Simba Corporation Limited, General Motor Company and Toyota Kenya Limited was analyzed using Statistical Package for Social Sciences. A bivariate correlation analysis and multiple linear regression analysis between dependent variable and independent variables were carried out to determine if a relationship existed between variables. Regression statistics was then used to determine the significance of the relationship between variables. Data was analyzed and presented using descriptive statistics and presented in terms of mean, standard deviation, coefficient of variation (CV) and significance test.

The study first determined the respondent and organizational characteristics. It was established that most respondents had worked for their respective firms for between one and five years at 39.3%, closely followed by those who have worked for 6-10 years at 37.5% and 11-15 years at 15.2% and lastly those who have worked for over 15 years at 8%.This indicates that the respondents had worked in the motor companies for a long period to give credible information on the usage of an ERP system and the financial performance of the firms in the motor sector since length of service has been associated with experience. Thus, the respondents were deemed to be authoritative and could give relevant information which was up to date. The study also established the department of the respondents in their respective motor companies whereby Finance and Accounts department emerged to be where most of the respondents worked with a 71.4%. This implies that they were in a better position to give credible information on the usage of an ERP system and the financial performance of the firms in the motor sector owing to their knowledge and experience in financial aspects. The respondents were asked to name their respective motor company where Simba Corporation Limited had the most respondents at 49.1 % reason being that it's a holding company for six motor companies.

The study established that ERP systems usage on Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer services had a positive and statistically significant effect on the financial performance of Motor Industry in Nairobi, Kenya. The study had five specific objectives and five corresponding hypotheses developed and tested. Findings indicated a statistically significant relationship between all the variables tested and performance. Specifically, result indicate statistically

significant effect of ERP systems usage on Accounts Payable (p= 0.033), Accounts Receivable (p= 0.024), Cash Management (p= 0.023), Asset Management (p= 0.023), and Customer service (p= 0.019) on financial performance respectively.

Past studies on effect of ERP systems on firm financial performance supports the above study findings, for example, Tyagi's (2013) research study focused in comparing companies categorized as "best-in-class," "industry average," and "laggards," the finding reflect that the best-in-class companies engaged in automated AP/AR integrated in ERP systems were 189.5% more likely than laggards to offer support for e-invoicing through the PTP process, helping both vendors and customers "get on-board with electronic invoice management and expediting the workflow by automating the sub-process across the entire chain." The result is significant improvement in strategic cash flow management resulting from myriad AP/AR managerial tasks.

On the other hand, Ball's (2014) research study further distinguished between companies categorized as "leaders" and "followers," in regard to keys to success driving automated AP/AR integrated in ERP system. These keys include electronic transactions (invoicing and orders), electronic process automation enablement (automated settlement information capture) and enabling technologies to improve efficiency and visibility to the processes. Ball's findings which included many companies with complete ERP solutions was obvious the degree to which automation provided a more optimal solution to AP/AR processes and cash flow management.

As to the importance of cash flow management, Aberdeen Group's April 2012 Treasury and Payment Survey Pezza (2012) asked companies to rate the impact (from "no impact" to 'high impact") on treasury strategy across a range of operational and strategic business functions. The results of the survey as related to cash flow attributes expressed as percent High Impact were Cash Flow Forecasting 54%, Accounts Receivables 49%, Accounts Payables 32%, Short-term Borrowing to Cover Deficits 25% and Short-term Investment of Surplus Cash 15%. Notably from the survey is the relatively high percent of high impact related to AP/AR strategies; 32% versus 49%, respectively.

Further, according to Kearney's survey, companies that currently use computerized maintenance management systems in asset management exhibited an average of 28.3 percent increase in the productivity of maintenance, 20.1 percent reduction in equipment downtime, 19.4 percent savings in the cost of materials, 17.8 percent decrease in inventory maintenance and repair, 14.5 months of payback time (IBM Corporation, 2019).

In relation to the importance of ERP systems supporting customer service in improving firm financial performance, Tseng, (2016) research study showed that CRM embedded in ERP system has a significant effect on service quality. This means that if understanding customer preferences and providing customized services are superior, service quality is significantly enhanced. Tseng, (2016) contends that in order to enhance service quality, enterprises must strive to enhance employees' capability of understanding customer preferences and providing customized services. As for understanding customer preferences, a firm should understand what kinds of products/services customers like and

what kinds of marketing methods customers like. As for providing customized services, a firm should effectively identify and acquire the right customers and segment and classify customers in order to provide customized products and services for their target customers. Moreover, a firm can maintain close interactions with their customers to establish long-term relationships (Tseng, 2016).

A study by Kallunki *et al*. (2011), for example, found a significant relationship between an ERP system and formal and informal control systems that mediate to improve operational efficiency and then enhance the firm's financial performance.

Another study conducted by Suhaimi, Nawai and Salin (2016) found that, ERP is a fantastic tool for management control system and that the ERP system had added transparency and was easy to control all the business units and activities. The variance report in the companies' ERP system assists in monitoring the budgeting and planning to ensure that costs have not overrun. If the cost has neared the budgeted cost, managers will be alerted, and quick action will be taken to overcome the problems.

Sánchez-Rodríguez and Spraakman (2012), in their study examined the changes that ERP implementations have brought about in organizations. They found that companies' charts of accounts were expanded due to ERP, which allowed the performance measurement to become more extensive, standardized, and thorough as well. Furthermore, non-financial measures comprehensively revamped with financial and non-financial information were equally important and integrated with each other in a company's transactions.

5.3 Conclusions of the study

This study sought to establish the influence of Enterprise Resource Planning finance module systems on financial performance of Motor Industry in Nairobi, Kenya. To achieve this, specific objectives and matching hypothesis were formulated. The relationship was conceptualized and schematized in a conceptual framework. Primary data was collected, cleaned, sorted, edited and analyzed. The analyses were done using descriptive statistics as well as multiple regression analyses and the results tabulated.

In this regard the study has drawn the following conclusions. Overall, there is a strong relationship (R=0.726) between ERP systems usage and financial performance of Motor Industry in Nairobi, Kenya. The R-Square value of study was 0.527 which implies that ERP systems usage on Accounts Payable, Accounts Receivable, Cash Management, Asset Management and Customer Service accounted for 52.7% of the total variance in financial performance of Motor Industry in Nairobi, Kenya. The study findings confirms the objectives that there's a strong relationship between ERP systems usage on Accounts Payable (p= 0.033), Accounts Receivable (p= 0.024), Cash Management (p= 0.023), Asset Management (p= 0.023), Customer service (p= 0.019) and financial performance of Motor Industry in Nairobi, Kenya.

5.4 Recommendations of the study

Management of Motor companies and other commercial entities, borrowing from these findings can enhance the ERP systems usage in their organizations to improve the performance of their firms. The study showed that efficient ERP usage can result in

superior performance which is a precursor to external competitiveness. I recommend that managers of motor companies perform internal ERP systems usage analyses to determine their full utilization in the organizations to ensure that they derive maximum benefits from ERP systems usage. The organizations implementing ERP system should systematically offer proper training development and other requisite support to ensure success in their endeavors.

Consequently, ERP system developers must continuously enhance systems in order to make them meet the real business needs. To improve users' satisfaction, they must implement strategies that involve training and involvement in ERP system development processes. In this way, users will have realistic expectations of the ERP system that can be met, which will in turn increase their satisfaction. The ERP systems manufacturers should establish regional offices in the country to support ERP systems users locally in development, implementation and full utilization of ERP systems by the organizations.

The study has significant implications on policy from both an individual motor company's perspective as well as from a regulatory perspective. Current policies seem to favor the outstanding performance hence we recommend that the current ERP systems usage policy stances by motor companies and regulators should either be maintained or enhanced to foster the outstanding performance of the industry.

The study confirmed the conceptual hypothesis that there is a strong relationship between ERP systems usage and financial performance. This adds to the steadily growing body of

literature in academic circles about the role of ERP systems in driving firm financial performance. It also illustrates that effective ERP systems usage is a key determinant of firm financial performance and a source of competitive advantage.

5.5 Suggestions for further Research

This study focused on the relationship between ERP systems usage and performance. The study met all its objectives. It also aroused issues that would require further research. The study concentrated on variables with financial aspects of ERP systems usage hence researchers could therefore consider introducing other variables of strategic nature in ERP systems usage in similar studies such as organizational structure integration efficiency, Employees work efficiency, Regulatory factors compliance among other variables and establish their influence on performance. A pure qualitative approach would also provide a rich insight between ERP systems usage and performance of Motor Industry in Kenya.

REFERENCES

Addo-Tenkorang, R., & Helo, P. (2011). Enterprise resource planning(ERP): a review literature report. *Proceedings of the World Congress on Engineering and Computer Science*, 2.

Awwad, A. S., Al-Khattab, A. A. & Anchor, J. R. (2013). Competitive Priorities and Competitive Advantage in Jordanian Manufacturing. *Journal of Service Science and Management,* 6, 69-79

Bakar, L. J. and Ahmad, H. (2010). Assessing the Relationship between Firm Resources and Product Innovation Performance. *Business Process Management Journal*, 16(3), 420-435.

Ball, B. Leaders' Winning Strategies for Common Issues in AP/AR. Retrieved December 12, 2019 from Aberdeen Group: http://v1.aberdeen.com/launch/report/research_report/9854-RR-electronic-payment.asp, October 2014.

Beijerse, R.P. (1999). Questions in KM: defining and conceptualising a phenomenon. *Journal of Knowledge Management*, 3(2), 94-109.

Borg, W.R., & Gall, M.D. (1989). *Educational Research: An Introduction 5thEd*. London: Longman.

Bragg, S., 2013. *Accounting Best Practices. 7th ed.* U.S.A: John Wiley & Sons, Inc.

Bull, C. (2010). Customer relationship management (CRM) systems, intermediation and disintermediation: the case of INSG. *International Journal of Information Management,* 30(1), 94-97.

Burns, Michael, 2009. How to Select and Implement an ERP System. pp. 1-15. Retrieved on 18 December 2018 from http://www.180systems.com/ERPWhitePaper.pdf

Cameron, K. S. (1986). Effectiveness as paradox: consensus and conflict in conceptions of organizational effectiveness. *Management Science,* 32(5), 539-553.

Castellina, N. (2014). Don't Sweat the Details: Use Accounting Software and Focus on Growing Your Business. Retrieved April 22, 2019 from Aberdeen Group: http://v1.aberdeen.com/launch/report/research_report/10029-RR-accounting-SMB-cloud.asp.

Cforia, (2012). Inc. Cash flow optimized. Retrieved April 22, 2019 from CFORIA: www.cforia.com.

Chalmeta, R. (2006). Methodology for customer relationship management. *The Journal of Systems and Software,* 79(7), 1015-1024.

Chang, M. K., Cheung, W., Cheng, C. H., & Yeung, J. H. Y. (2008). Understanding ERP system adoption from the user's perspective. *International Journal of production economics,* 113, 928-942.

Chapman, C. S. and Kihn, L. A. (2009). Information System Integration - Enabling Control and Performance. *Accounting, Organizations and Society*, 34(2), 151-169.

Chen, H. J., Yan Huang, S., Chiu, A. A. and Pai, F. C. (2012). The ERP System Impact on the Role of Accountants. *Industrial Management & Data Systems,* 112(1), 83-101.

Cheng, J.H., Chen, F.Y. and Chang, Y.H. (2008). Airline relationship quality: an examination of Taiwanese passengers. *Tourism Management*, 29(3), 487-499.

Churchill, G.A. and Iacobucci, D. (2002). *Marketing research: Methodological foundations, 8th ed*. Orlando: Harcourt College Publishers.

Cooper, D. R., & Schindler, P. S. (2013). *Business Research Methods (12th Ed.)* New York: McGraw-Hill Education.

Copley, S. (2015). What is Systems Analysis? Retrieved on April 22, 2019, from IGCSE ICR: http://www.igcseict.info/theory/8/what/, 2015.

Corcentric (2014). AP Process Automation & Accounts Payable Solutions. Retrieved on 22 April 2019 from Corcentric: http://www.corcentric.com/ap-automation/

Corcentric (2014). Automated Accounts Receivable Software Solution (2014). Retrieved on 22 April 2019 from Corcentric: http://www.corcentric.com/ar-automation/

Davenport, T. H., Harris J. G. and Cantrell S. (2004). Enterprise systems and ongoing process change. *Business Process Management Journal*, 10(1), 16-26

Davenport, T.H., (2011). *Mission Critical: Realizing the Promise of Enterprise Systems*. Boston: Harvard Business School Press.

Davis, F. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319-40

Dechow, N. and Mouritsen, J. (2005). Enterprise Resource Planning Systems, Management Control and the Quest for Integration, Accounting, Organization and Society. 30, 691-733.

Doom, C., Milis, K., Poelmans, S., & Bloemen, E. (2010). Critical success factors for ERP implementations in Belgian SMEs. *Journal of Enterprise Information Management*, 23(3), 378-406.

Dunphy,J, Shimkus, S., & Prestigiacomo, C. (2008). Datacap. Pg 11 – 38.Ells CPA. Top 5 Reasons for Implementing an Automated Accounting System. Retrieved April 22,

2019 from Ells CPAs: http://www.ellscpas.com/2012/12/14/top-5-reasons-for-implementing-an-automated-accounting-system/, 2014.

du Plessis, M. and Boon, J.A. (2004). Knowledge management in eBusiness and customer relationship management: South African case study findings. *International Journal of Information Management*, 24(1), 73-86.

Eid, R. (2007). Towards a successful CRM implementation in banks: an integrated model. *The Service Industries Journal,* 27(8), 1021-1039.

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review,* 14(1), 57–74

Ekinci, Y., Ulengin, F. and Uray, N. (2014). Using customer lifetime value to plan optimal promotions. *The Service Industries Journal*, 34(2), 103-122.

Eriksson, P., & Kovalainen, A. (2008). *Qualitative Methods in Business Research, 1st Ed.* London: SAGE Publications Ltd.

Freeman, R.E (1984). *Strategic Management: A stakeholder Approach*. Boston, MA: Pitman.

Freeman, R.E (2004). A Stakeholder Theory of Modern Corporations. *Ethical Theory and Business.*

.

Friedman, A.L. and Miles, S. (2006). *Stakeholders: Theory and Practice*. Oxford: Oxford University Press.

Fry, F. L., Stoner, C.R., and Hattwich, R. E. (2008). *Business: An Integrative Framework.* Boston: McGraw-Hill

Garcıa-Sanchez, N. & Perez-Bernal, L. (2007). Determination of Critical Success Factors in Implementing an ERP System: A Field Study in Mexican Enterprises. *Information Technology for Development*, 13(3), 293- 309.

Gattiker T. F. Goodhue D. L. (2005). What happens after ERP implementation: Understanding the impact of interdependence and differentiation on plant-level outcomes. *Management Information Systems Quarterly*, 29(3), 559–585.

Grabski, S.V., Leech, S. A and P.J. Schmidt, P. J. (2011). A review of ERP research: a future agenda for accounting information systems. *Journal of Information Systems*, 113(1), 37-78

Gujarati, D., &Sangeetha. (2013). *Basic Econometrics, (4thEd.)* Boston: McGraw-Hill.

Hendricks, K. B., Singhal, V. R., Stratman, J. K. (2007). The impact of enterprise systems on corporate performance: A study of ERP, SCM, and CRM System implementations. *Journal of Operations Management,* 25(1), 65-82.

Hung, S.Y., Hung, W.H., Tsai, C.A. and Jiang, S.C. (2010). Critical factors of hospital adoption on CRM system: organizational and information system perspectives. *Decision Support Systems*, 48(4), 592-603.

IBM Corporation, (2019). Understanding the impact and value of enterprise asset management. Retrieved May 4, 2019 from https://www.ibm.com/downloads/cas/BX0ERPWB

Ifinedo P. Nahar N. (2009). Interactions between contingency, organizational IT factors, and ERP success. *Industrial Management & Data Systems*, 109(1), 118–137.

Jordan, B.D., Ross, S.A & Westerfield. (2008). *Fundamentals of Corporate Finance*. McGraw Hill Irwin. Pg. 628.

Kaigh, E. (2015). Automating Accounts Receivable: Shorter Cycle Times, Lower Cost. Retrieved April 22, 2019 from Business Finance: http://businessfinancemag.com/tax-accounting/automating-accounts-receivable-shorter-cycle-times-lower-costs, 2015.

Kallunki, J. P., Laitinen, E. K. and Silvola, H. (2011). Impact of Enterprise Resource Planning Systems on Management Control Systems and Firm Performance. *International Journal of Accounting Information Systems*, 12(1), 20-39.

Kamakura, W., Mela, C.F., Ansari, A., Bodapati, A., Fader, P., Iyengar, R., Naik, P., Neslin, S., Sun, B., Verhoef, P.C., Wedel, M. and Wilcox, R. (2005). Choice models and customer relationship management. *Marketing Letters*, 16(3), 279-291.

Kamarulzaman, N. H. and Mohamed, Z. A. (2013). Application of E-procurement Technologies for Selecting Suppliers of Agro-based SMEs in Malaysia. *International Journal of Economics and Management*, 7(1), 45-66.

Kaplan, R. S. and D.P. Norton (1992). The Balanced Scorecard: Measures that Drive Performance, *Harvard Business Review*, January-February, 71-79.

Kim, J., Nicolaou, A. I. and Vasarhelyi, M. A. (2013). The Impact of Enterprise Resource Planning (ERP) Systems on the Audit Report Lag. *Journal of Emerging Technologies in Accounting*, 10(1), 63-88.

Klassen, G. (2009). Automating Accounts Payable. Mays Business School, University of Texas A&M, 2115 TAMU College Station, TX 77843-2115. Retrieved April 22, 2019 from: http://recenter.tamu.edu/pdf/1896.pdf, 2009.

Kodama, M. (2007). Innovation and knowledge creation through leadership-based strategic community: case study on high-tech company in Japan. *Technovation*, 27(3), 115-132.

Kothari, C.R. (2004). *Research Methodology, Methods and Techniques*. (2nd Revised ed). New Delhi: New Age International Publishers.

Kwahk, K.-Y., & Kim, H.-W. (2008). *Managing readiness in enterprise systems-driven organizational change. Behaviour and Information Technology,* 27(1), 79-87.

Lambert, R.A. (2001). Agency Theory and Management Accounting, *Journal of Accounting and Economics, 247-268.*

Lee, H.S., Kim, T. G., and Choi, J. Y. (2012). A Study on the Factors Affecting Smartphone Application Acceptance. In: 3rdInternational Conference on e-Education, e-Business, e-Management and e-Learning. Singapore, pp.27-34. Retrieved from http://www.ipedr.com/vol27/6-IC4E%202012-F00009.pdf

Lee, H. (2012). A Study on the Factors Affecting Smart Phone Application Acceptance. Ipedr.Com, 27, 27–34. Retrieved from http://www.ipedr.com/vol27/6-IC4E 2012-F00009.pdf

Liang, H., Saraf, N, Q., Hu,Q, and Xue, Y., (2007). Assimilation of enterprise systems: the effect of institutional pressures and the mediating role of top management. *MIS Quarterly*, 31(1), 59-87

Liu, C.T., Guo, Y.M. and Lee, C.H. (2011). The effects of relationship quality and switching barriers on customer loyalty. *International Journal of Information Management*, 31(1), 71-79.

Lyytinen K, Mathiassen L and Ropponen J (1998). Attention shaping and software risk – a categorical analysis of four classical approaches. *Information Systems Research*, 9 (3), 233–255

Mabert, VA, Soni, A, Venkataramanan, MA (2001). Enterprise Resource Planning: Measuring Value, Production and Inventory. *Management Journal*, 42(3/4), 46-52.

Matolcsy, Z. P., Booth, P., Wieder, B. (2005). Economic benefits of Enterprise Resource Planning Systems: Some Empirical Evidence. *Accounting and Finance,* 45(3), 439-456.

Mayes C. & Dyer J.N, (2015). SMB Automation of Accounts Payable and Accounts Receivable. *International Journal of Business Research*. DOI: 10.18374/IJBR-15-3.4

Mekic, E., & Ozlen, M. K. (2014). Acceptance of Smartphones by Users in BiH Through Extended Technology Acceptance Model. *European Researcher,* 67 (1-2), 136 - 147.

Mintzberg H. (1979). *The structuring of organizations: a synthesis of the research*. New Jersey: Prentice-Hall.

Morris, J. J. (2011). The Impact of Enterprise Resource Planning (ERP) Systems on the Effectiveness of Internal Controls over Financial Reporting. *Journal of Information Systems*, 25(1), 129-157.

Morton N. Hu Q. (2008). Implications of the fit between organizational structure and ERP: A structural contingency theory perspective. *International Journal of Information Management*, 28(5), 391–402.

Mugenda, O. M., & Mugenda, A. G. (2003). Research Methods: Quantitative and Qualitative Approaches. Nairobi: Applied Research and Training Services Press.

Mustapha, M. and Ismail, H. (2013). Information System Structure and the Demand for Monitoring Costs. *International Journal of Economics and Management*, 7(12), 396-407.

Nazir, S. and Pinsonneault, A., (2012). IT and firm agility: an electronic integration perspective. *Journal of the Association for Information Systems,* 13(3), 150-171

OECD. *Asset Management for the Road Sector*. Organization for Economic Co-Operation and Development, Paris, 2001.

Ozgener, S. and Iraz, R. (2006). Customer relationship management in small-medium enterprises: the case of Turkish tourism industry. *Tourism Management*, 27(6), 1356-1363.

Patton, W., & McMahon, M. (2006). *Career development and systems theory: Connecting theory and practice (2nd ed.)*. Rotterdam, The Netherlands: Sense Publishers.

Peng, G. C. and Nunes, M. G., (2009). Surfacing ERP exploitation risks through risk ontology. *Industrial Management and Data Systems,* 109(7), 926-942

Pezza, S (2012). "Treasury Strategy and Operational Cash: The Importance of AP/AR." Retrieved December 12, 2019 from Aberdeen Group: http://www.aberdeen.com/research/7947/ai-accounts-payable-receivable/content.aspx

Phillips R. (2004). Ethics and A Manager's Obligations under Stakeholder Theory. *Ivey Business Journal* 68, 1–4

Pouloudi, Athanasiaand Whitley, Edgar A. (1997). Stakeholder identification in inter-organizational systems: gaining insights for drug use management systems. *European Journal of Information Systems,* 6(1), 1-14.

ReadSoft (2015). Accounts Receivable Automation: Accelerate Efficiency and Reduce DSO. Retrieved April 22, 2019 from ReadSoft: http://us.readsoft.com/solutions/automation-for-sap/accounts-receivable

Richard, P., Devinney, M., (2009). Measuring Organizational Performance: Towards Methodological Best Practice. *Journal of Management*, 35(3), 718 – 804.

Rubio, A., and Aragon, A. (2009). SMEs Competitive Behavior: Strategic Resources and Strategies. *Management Research*, 7(3), 171–190.

Ryals, L., Knox, S.D. and Maklan, S. (2000). *Customer Relationship Management*. London: Prentice-Hall

Saatcioglu, O. Y. (2007). What determines user satisfaction in ERP projects: -benefits, barriers or risks? *Journal of Enterprise Information management*, 22(6), 698-708.

Saberi, B. (2018). The role of the automobile industry in the economy of developed countries. *International Robotics & Automation Journal*, 4(3), 179-180.

Sánchez-Rodríguez, C. and Spraakman, G. (2012). ERP Systems and Management Accounting: A Multiple Case Study. *Qualitative Research in Accounting & Management*, 9(4), 398-414.

SAP. (2010). SAP ERP Business Benefits. Retrived on 2nd March 2018 from URL http://www.sap.com/solutions/businesssuite/ erp/businessbenefits/index.epx.

Saravanan, R. and Rao, K.S.P. (2007). Measurement of service quality from the customer's perspective: an empirical study. *Total Quality Management*, 18(4), 435-449.

Schlichter, B. R. and Kraemmergaard, P., (2010). A comprehensive literature review of the ERP research field over a decade. *Journal of Enterprise Information Management*, 23(4), 486-520

Seddon, P., Calvert, C. and Yang, S. (2010).A multi-project model of key factors affecting organizational benefits from enterprise systems. *MIS Quarterly*, 34 (2), 305-328

Selvarajan, T. T., Ramamoorthy, N., Flood, P. C., Guthrie, J. P., MacCurtain, S., & Liu, W. (2007). The role of human capital philosophy in promoting firm innovativeness and performance: Test of a causal model. *International Journal of Human Resource Management,* 18(8), 1456-1470.

Shi, J. and Yip, L. (2007). Driving innovation and improving employee capability: the effect of customer knowledge sharing on CRM. *The Business Review,* 7(1), 107-112.

Shuhaimi, N. S. A., Nawawi, A. &Salin, A. S. Z. P. (2016).Impact of Enterprise Resource Planning on Management Control System and Accountants' Role. *International Journal of Economics and Management.* 10(1), 93 – 108.

Singletary, L., Pawlowski, D., et al., (2003). What is applications integration? Understanding the perspectives of managers, IT professionals, and end users. Proceedings of the 9th Americas Conference on Information Systems, Tampa, Florida, USA.

Siriprasoetsin, P., Tuamsuk, K. and Vongprasert, C. (2011). Factors affecting customer relationship management practices in Thai academic libraries. *The International Information & Library Review*, 43(4), 221-229.

Suhaimi, N. S., Nawawi A., and Salin A. S. A. P., (2016). Impact of Enterprise Resource Planning on Management Control System and Accountants' Role. *International Journal of Economics and Management*, 10(1), 93-108

Sun, Y., Bhattacherjee, A., & Ma, Q. (2009). Extending technology usage to work settings: the role of perceived work compatibility in ERP implementation. *Information and Management*, 46, 351-356.

TopBits.(2011).Enterprise resource planning. Retrieved on 5th March 2018 from: http://www.tech-faq.com/enterprise-resource-planning.html

Tracy, J. A., (2018). *Accounting for dummies*. 4th ed. U.S.A: Wiley.

Tsai, C.-Y., Wang, C.-C., & Lu, M.-T. (2011). Using the technology acceptance model to analyze ease of use of a mobile communications system. *Social behavior and personality* , 65-70.

Tseng, S.M., (2016). Knowledge management capability, customer relationship management, and service quality. *Journal of Enterprise Information Management*, 29(2), 202-221

Tyagi, A. (2013). From the Shadows to the Forefront: AP Automation and the Strategic Vision. Retrieved April 22, 2019 from Aberdeen Group: http://v1.aberdeen.com/launch/report/benchmark/8671-RA-accounts-payable-automation.asp, October 2013.

Ueltschy, L.C., Laroche, M., Zhang, M., Cho, H. and Yingwei, R. (2009). Is there really an Asian connection? Professional service quality perceptions and customer satisfaction. *Journal of Business Research,* 62(10), 972-979.

Wagner, E. L. and Newell, S. (2006). Repairing ERP Producing Social Order to Create a Working Information System. *The Journal of Applied Behavioral Science*, 42(1), 40-57.

Wang, X.L. (2012). Relationship or revenue: potential management conflicts between CRM and revenue management. *International Journal of Hospitality Management*, 31(3), 864-874.

Warmbrod, J. R. (2001). *Conducting, Interpreting, and Reporting Quantitative Research*. New Orleans, Louisiana: Research Pre-Session

Weinrich, K. I., & Ahmad, N. (2009). Lessons learned during a decade of ERP experience: a case study. *International Journal of Enterprise Information Systems*, 5(1), 55-75.

Zikmund, W.G. (2003). *Business Research Methods, 7th Ed*, Ohio: South-Western.

Zikmund, W. G. (1997). *Exploring marketing research.* Fort Worth: The Dryden Press.

APPENDICES

Appendix 1: Research Questionnaire

Part A: Introduction Letter

Dear Respondent,

My name is Eliud Mwaura Kimani. I am a finalist Master of Business Administration Student at Moi University. In partial fulfillment of the requirement of this course, I am conducting my academic research entitled 'Effect of Enterprise Resource Planning finance module systems on Financial Performance of Motor Industry in Nairobi, Kenya.' I have been granted a Research License by National Commission for Science, Technology and Innovation to conduct this research. The University and the management of Simba Corporation Limited, General Motors Company and Toyota Kenya Limited have permitted me to carry out this research and I will treat your opinions confidentially. Your honesty is both critical and paramount when you respond to the questionnaire.

I look forward to your co-operation.

Yours faithfully,

Eliud Mwaura Kimani.

Part B: The Questionnaire

Please tick (√) as appropriate.

Section A: Background Information

1. Gender of the Respondent

   Male ☐ Female ☐

2. The age bracket of the respondent (in terms of years)

   Up to 25 ☐ 26 - 35 ☐ 36 – 45 ☐ Over 45 ☐

3. How long have you been in this company (in terms of years)?

   0 - 5 ☐ 6 – 10 ☐ 11 - 15 ☐ Over 15 ☐

4. Department of the respondent

   Finance and Accounts ☐ Imports ☐ ICT ☐

5. Name of your company

   SCM ☐ SVRL ☐ AFMSL ☐

   BAL ☐ XML ☐ SCFL ☐

   GM ☐ TOYOTA ☐

Section B: Measuring the performance of your company

6. In the following statements, please rate your level of agreement or disagreement in relation to the performance of your organization in the last three years as follows: -

   1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Statement	1	2	3	4	5
Return on assets in our company is well above the industry average.					
Value added per employee in our company is well above the industry average.					
We consider our relations with suppliers to be excellent because we maintain genuine partnerships with them.					
We have long-term partner relationships with our suppliers.					
Productivity of employees is much higher than industry average.					
Employees feel very committed to the organization.					
Work costs per employee are well below the industry average.					
Work organization is efficient.					
We retain existing clients and manage to attract new ones.					
Reputation of our company in eyes of the customers has improved.					
The number of customer complaints has decreased.					

Effect of Enterprise Resource Planning systems on the performance of your company

Section C: Accounts Payable

7. In the following statements, please rate your level of agreement or disagreement in relation to Accounts Payable regarding to ERP system usage in your organization as follows: -

   1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Statement	1	2	3	4	5
ERP system facilitates efficient processing of suppliers/vendors invoices in our organization.					
ERP system in our organization enables prompt accounts payable invoices matching.					
ERP system facilitates prompt recording of accounts payable transactions in our organization.					
ERP system in our organization provides for netting off of accounts payable against accounts receivable.					
ERP system in our organization facilitates prompt payment to our suppliers/vendors.					

Section D: Accounts Receivable

8. In the following statements, please rate your level of agreement or disagreement in relation to Accounts Receivable regarding ERP system usage as follows: -

   1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Statement	1	2	3	4	5
ERP system in our organization enables prompt billing/invoicing for goods and services to our customers.					
ERP systems in our organization produces prompt customer statements.					

ERP system in our organization facilitates efficient receipting of payments received from our customers.					
ERP system in our organization enables prompt matching of accounts receivable invoices and payment receipts from customers.					
ERP system facilitates prompt recording of accounts receivable transactions in our organization.					
ERP system in our organization provides ageing analysis of customers debts.					

Section E: Cash Management

9. In the following statements, please rate your level of agreement or disagreement in relation to Cash Management regarding to ERP system usage as follows: -

   1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Statement	**1**	**2**	**3**	**4**	**5**
ERP systems in our organization reduces documentation cost (i.e. paper usage).					
The ERP systems reduces administrative cost in our organization.					
ERP systems in our organization increases the frequency of revenue collection (i.e. debt collection and various receipts).					

The ERP systems in our organizations reduces procurement cost (i.e. cost of acquiring, buying goods, services or works from an external source).					
ERP systems reduces technology cost (i.e. IT cost) in our organization.					
ERP systems facilitates bank reconciliations in our organization.					

Section F: Asset Management

10. In the following statements, please rate your level of agreement or disagreement in relation to asset management regarding ERP system usage as follows: -

    1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Statement	**1**	**2**	**3**	**4**	**5**
ERP system maintains accurate asset register in our organization.					
ERP system in our organization facilitates automatic assets depreciation calculation and posting to finance.					
ERP system in our organization enables increased asset availability/service reliability.					
ERP system asset management increases labor productivity in our organization.					
ERP system asset management reduces maintenance cost/service cost in our organization.					

Section G: Customer service

11. In the following statements, please rate your level of agreement or disagreement in relation to customer service regarding to ERP system usage as follows: -

    1 = Strongly Disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly Agree

Statement	**1**	**2**	**3**	**4**	**5**
ERP system in our organization improves service quality through customer direct feedback.					
The ERP system in our organization provides a platform for more interactive customer service.					
ERP system in our organization manage to enhance responsiveness to customers.					
The ERP system in our organization helps to reduce the number of customers' complaint.					
ERP system in our organization maintains a data base for our customers.					
Our organization effectively carries out End User education and training in ERP systems implementation leading to their operational efficiency.					

Section H: Overall rating of independent variables

12. Please rate the importance of the following statements relating to ERP systems usage in enhancing the performance of your company as follows: -

    1 = Not Important 2 = Slightly Important 3 = Moderately Important 4 = Important 5 = Very Important

Statements of ERP systems	**1**	**2**	**3**	**4**	**5**
Accounts Payable					
Accounts Receivable					
Cash Management					
Asset Management					
Customer service					

13. What are the main challenges faced by your organization during ERP systems implementation, development and usage?

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

Thank you for participating in this study.

Appendix II: Moi University Research Authorization Letter

MOI UNIVERSITY
ISO 9001:2008 CERTIFIED
SCHOOL OF BUSINESS AND ECONOMICS

Tel: (053) 43153
Fax: (053) 43153

P.O Box 63056-00200
NAIROBI
KENYA

MU/NRB/MBA/RP/01

29th July 2019

National Commission for Science, Technology and Innovation
Upper Kabete
P.O. Box 30623 00100
NAIROBI

Dear Sir/Madam,

RE: REQUEST FOR RESEARCH PERMIT
KIMANI ELIUD MWAURA

This is to confirm that the above named is a Postgraduate student of Moi University, School of Business and Economics, Department of Management Science. Mr. Kimani is pursuing a Master of Business Administration course offered at Nairobi campus.

The student successfully defended his proposal and is due to proceed for his research data collection.

The research Title is – **"Effect of Enterprise Resource Planning Systems on Performance of Motor Industry in Kenya, Nairobi County."**

The student is in the process of obtaining a research permit to enable him visit the identified research centers. The University shall highly appreciate any assistance accorded to him.

Yours faithfully,

MOI UNIVERSITY NAIROBI SATELLITE CAMPUS 29 JUL 2019 P.O. Box 63056 – 00200 NAIROBI

DR. ROBERT ODUNGA
FOR: DEAN, SCHOOL OF BUSINESS AND ECONOMICS

Appendix III: NACOSTI Research Licence

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR
SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **565841**

Date of Issue: **09/September/2019**

RESEARCH LICENSE

This is to Certify that Mr.. ELIUD KIMANI of Moi University, has been licensed to conduct research in Nairobi on the topic: Effect of Enterprise Resource Planning Systems on Performance of Motor Industry in Kenya, Nairobi County for the period ending : 09/September/2020.

License No: **NACOSTI/P/19/655**

565841

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR
SCIENCE,TECHNOLOGY &
INNOVATION

Verification QR Code

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