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Linda Gaceri Kinyua

School of Management and Commerce (SMC)

Strathmore University

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**The Influence of Vendor Support on Enterprise Resource Planning Success in
Manufacturing Companies in Nairobi County**

Linda Gaceri Kinyua

061973

**A thesis submitted in partial fulfillment of the requirements for the Degree of Master of
Commerce at Strathmore University**



**School of Management and Commerce
Strathmore University
Nairobi, Kenya**

June 2016

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Linda Gaceri Kinyua



Approval

The thesis of Kinyua, Linda Gaceri was reviewed and approved by the following:

Dr. Hellen Nyolo Otieno

School of Management and Commerce

Strathmore University



Dr. David Wang'ombe

Dean, School of Management and Commerce

Prof. Ruth Kiraka

Dean, School of Graduate Studies

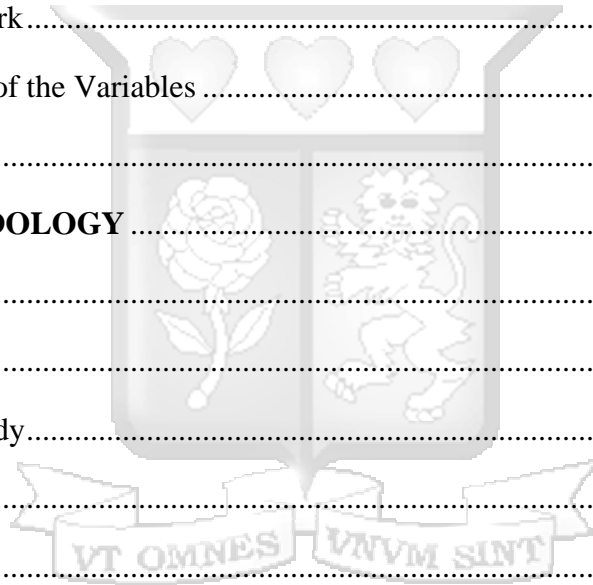
ABSTRACT

ERP software has brought many benefits to Kenyan organizations although implementing these systems is very challenging. There are many factors that come into play in the course of ERP implementation and one of these factors is ERP vendor support which is the role that the ERP seller plays in the implementation of ERP in the organization. The main objective of this study was to establish the influence of vendor support on successful ERP implementation in the Kenyan manufacturing industry. The specific objectives were to find out the influence of vendor training, project management and post implementation support on successful ERP implementation and lastly to establish factors that influence successful ERP implementation. The study adopted a cross-sectional descriptive study and a correlational analysis. To collect data, structured questionnaires were used with the data being analyzed for descriptive statistics. A regression analysis was also done to establish the relationship between the variables and successful ERP implementation. The findings indicated that of the three vendor support variables, only two variables; vendor training and post implementation influenced successful ERP implementation positively and significantly. Vendor training also had a higher correlation with successful ERP implementation albeit to a moderate extent. Vendor project management was found to be insignificant in explaining successful ERP implementation. The study recommends organizations implementing ERP to pay more attention to vendor training and ensure that it is done thoroughly to give the users control over it. Post implementation support will also ensure that the software is running efficiently and that upgrades are made in a timely manner. Once these two factors are taken into consideration, the organization will be able to reap the full benefits of the software in the long run. Though vendor project management was found to be insignificant in influencing successful ERP implementation, organizations implementing ERP should always insist that the vendor should strive to deliver the project within the project timelines and scope. Future studies can replicate the findings in other industries and also have multiple respondents to capture more views about ERP vendor support.

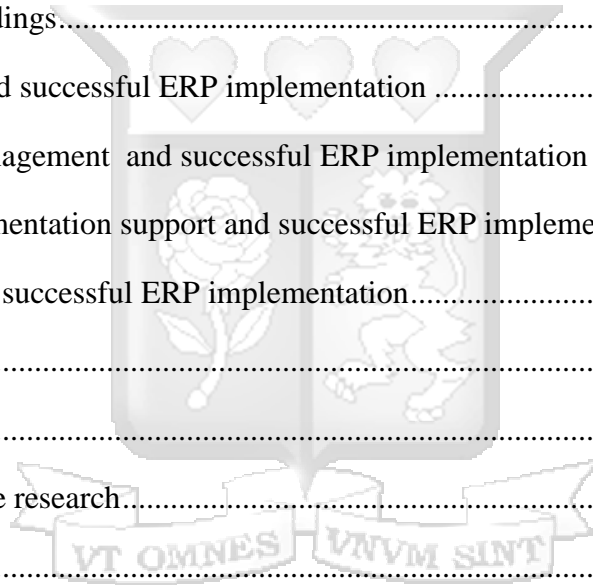
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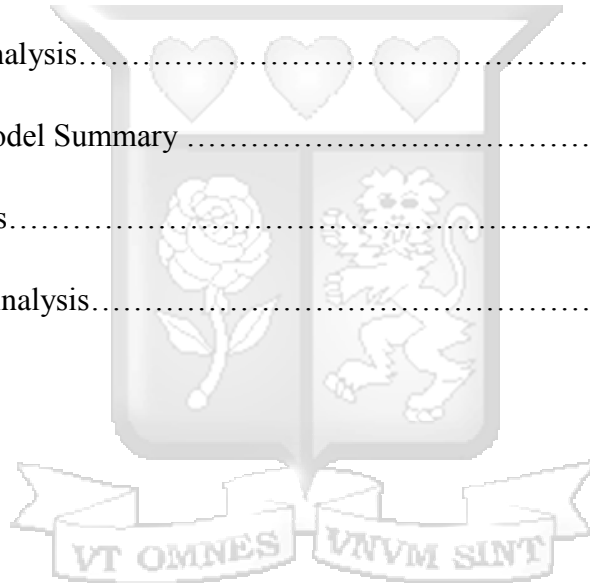


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LIST OF ABBREVIATIONS AND ACRONYMS

ERP-Enterprise Resource Planning

CSF-Critical Success Factors

KAM-Kenya Association of manufacturers

TP- Thinking Process

TOC-Theory of Constraints



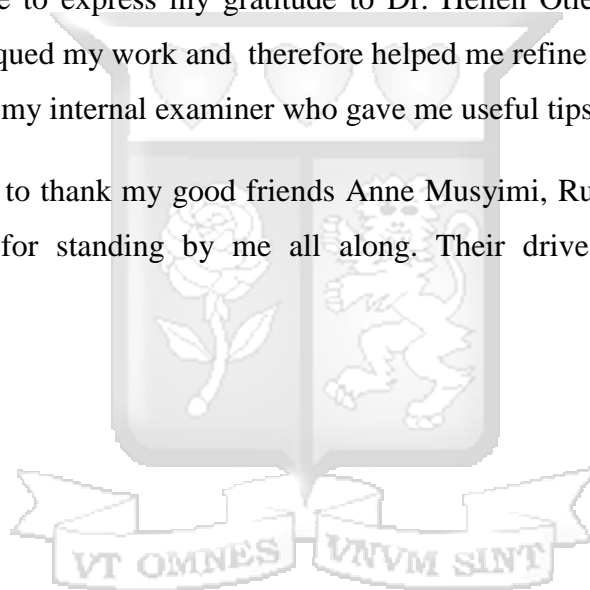
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DEDICATION

To my parents; Kinyua Mwamba and Lucy Kinyua. Thank you Papa for facilitating the completion of my studies for your prayers and guidance and my mother, the gentle force that always guides me.



CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Organizations today are faced with a myriad of challenges like the need to improve productivity, become more competitive, and meet customer demands efficiently and a host of governmental regulations. These unpredictable challenges have worked to create a very hostile environment for organizations to operate in. The radically changing business environment has made organizations adopt technology as a strategic tool to compete ably with their rivals (Toni & Somers, 2004).

Manufacturing companies are involved in daily activities like procurement, conversion and outbound logistics that basically encompass the entire value chain. Though these activities might be done in different departments/facilities they require to be intricately coordinated to ensure that the final product is delivered. If there is a hitch in any department, it creates a ripple effect which is in turn felt in the entire value chain Zhenyu et al.,(2001) leading to delays and stalled productivity. In the 1960s to 1980s, manufacturing organizations used separate systems for each business function like procurement, sales and marketing, finance, accounting and customer service (Rashid et al., 2002). These different systems were very complex to manage across the business functions. There was therefore a need to introduce a system that could integrate other business functionalities which led to the inception of ERP in the 1990s (Koch, 2006). It is for this reason that ERP is very essential in coordinating operational and logistical functions across different departments and ensuring that they operate seamlessly (Zhenyu et al., 2001). Since it was introduced ERP systems have enabled business processes to be more efficient which has aided companies in saving a lot of money and time (Nah and Lau, 2001).

Despite the many organizations implementing ERP, Huang et al., (2004) found most of ERP projects failed while some were incomplete. ERP has been implemented by many companies but their high failure rates suggest that understanding successful implementation is challenging to many organizations (Al-Mashari et al., 2003). In a bid to try and unravel why so many ERP projects fail to take off, many researchers have researched on the Critical Success Factors (CSF's) that can impact implementation of ERP either negatively or positively. Some of the

factors that have been identified by many researchers are business vision, project plan, top management support, effective leadership and commitment, vendor support and business process re-engineering (Holland & Light, 1999; Bingi et al., 1999; Al-Mashari et al., 2003; Umble et al., 2003; Akkerman & Van Helden, 2002).

Vendor support has emerged as a very pertinent issue in the successful implementation of ERP though it has not been widely reviewed by previous researchers. Software vendors are tasked with supplying maintenance and support service during the course of ERP implementation (Fardipour, 2011). Vendor Support has been defined in different ways but there is no consensus on these definitions. Tarhini et al., (2005) defines ERP vendors as implementation consultants tasked with understanding the implementing company's current business processes and aligning them to the processes already configured and programmed in the ERP system. Ndubisi, Gupta and Massoud (2003) posit that ERP vendors maintain and support the ERP application and provide enhancements to keep the software update with ongoing technical and business developments.

Though these two definitions position ERP vendors as consultants Shahin and Sulaiman (2010) break vendor support into roles such as upgrades, user training, project management and post implementation support. Vendor roles are many in the course of ERP implementation but this study will be focusing on three of those factors vendor training, post implementation support and vendor project management. This does not mean the rest of the factors are less important, but the ones this study will be focusing on are very critical in the course of ERP implementation.

ERP systems are extremely complex and demand rigorous training and this factor is very critical for the successful implementation of ERP (Bingi et al, 1999). Somers and Nelson (2001) argues training reduces the users' anxiety about the use of the ERP systems. Luminita (2009) has contrasting views in the importance of training. She argues that it fails to achieve the intended mission because it is done wrongly in many instances due to the passive attitude that many ERP vendors have on training. Bradley and Lee (2007) argue that training should not be an afterthought for a system that costs millions to implement.

Project management in technological projects refers to the skill and ability to manage a development activity (Parr and Shanks, 2000). Many ERP projects in Kenya fail due to the

inadequacy of managerial skills. Kenyan organizations fail to distinguish between the human requirements of ERP and those of the new ERP system (Otieno, 2010). ERP vendors should understand that ERP implementation is much of a people's project as much as it is an IT project and they should therefore be well versed in project management skills which are essentially people management skills (Umble et al., 2003).

Post implementation stage of ERP aids in the survival of the ERP system in the organization and its effective assimilation (Markus et al., 2000). Though this stage is critical, Donovan (2001) argues it is not necessary if the features of the system have been fully understood by their target users. Many studies have implicitly assumed that ending an ERP project on time and within budget can guarantee long term benefits ignoring that there are later events that could later radically change the project's performance. It is therefore important that organizations pay special attention to the post implementation stage of an ERP system to ensure its well deployed (Kumar et al., 2003; Markus et al., 2003).

The significance of vendor support has been researched on by many researchers with varying findings. Tsai and Hung (2008) opine that a vendor's role is critical in any ERP implementation and insufficient support will affect an ERP project negatively. This finding is also supported by Umble et al., (2003) who emphasizes on the importance of a strong vendor/customer partnership for successful implementation of ERP projects. While these studies have all emphasized on the importance of vendor support in the course of ERP implementation Caldas and Wood (2000) found the support given by the vendor consultants to have minimal relevance to the overall success of the project. The main reason for his finding was lack of commitment and experience from the ERP vendors.

Loh and Koh (2004) found most of the past literature to focus on the organizations implementing ERP with little attention paid to the ERP vendors who are important stakeholders in the ERP project. In the Kenyan context Otieno (2010) found ERP implementation to be smaller compared to elsewhere in the world. Though the ERP projects in Kenya are small, he emphasizes that they still share similar complexities to international implementations. Some of the main challenges faced by Kenyan organizations are due to inexperienced vendors who were not committed to the success of the project. This finding is echoed by Momanyi (2014) who found the problem of inadequate skilled vendors to be a major challenge in the course of adoption of ERP by Kenyan

manufacturing firms. Chepkoech and Noor (2014) established that many Kenyan manufacturing were unable to integrate their business processes with the ERP software during the course of ERP implementation which led to huge losses. They recommended the involvement of qualified vendors to implement ERP successfully.

Many studies done in the Kenyan and international context have mainly focused on the factors that lead to successful ERP implementation in the host organization. These factors have not been adequately researched on individually in the Kenyan context, with the bulk of such studies being done in the developed countries. There is therefore a need to research on the importance of vendor support in Kenyan manufacturing companies and it is this gap that this study seeks to fill.

1.1.1 The Kenyan Manufacturing Industry

The Kenyan manufacturing sector is a large contributor to the country's economy which is growing in leaps and bounds, making very good progress in its advancement. In a 2014 survey by KPMG Africa, the Kenyan manufacturing sector was ranked the third best in Africa, after Mauritius and South Africa respectively. In their report, it was found that Kenyan companies had a very high capacity for innovation, and Kenya was ranked 34th in the world's most innovative countries. In the Kenyan World Bank Economic Update in 2014, Kenya was found out to be emerging as one of East and Central Africa's growth centers. The Kenyan Manufacturing sector is large and serves both the local market and also exports to the East and Central African region. Rasiah and Gachino (2005) found the Kenyan manufacturing industry to be mainly dominated by foreign firms which own subsidiaries of multi-national corporations. In their study, they found these foreign owned firms to be more productive, export and technologically more intensive than the local firms. Though these firms enjoy more labor productivity, the government can harness their superior technological intensities to stimulate growth in the local industries.

The first cases of ERP adoption in Kenya occurred between the years 1986 and 1990 (Bigsten, Kimuyu & Soderbom, 2010). In a study by Nzuki and William (2015) they found ERP adoption in Kenya to be minimal at (39.2%) and in its initial stages in Kenya. In his study it was found out that organizational factors were the main determinants of ERP adoption, especially in the Kenyan manufacturing sector.

Gargeya and Brady (2005) found many manufacturing organizations that implement ERP in Africa run into a myriad of challenges with the implementation process and the subsequent post-implementation support. The Kenyan manufacturing sector is not an exception because most of the ERP systems used in local manufacturing firms are sourced from overseas vendors. The fact that many of these systems are already built with the European market in mind, makes it hard to install in the Kenyan and African organizations at large without extensive configurations (Otieno, 2010). Though ICT has been the main driver of Kenya's economic growth, a survey carried out on the Kenya's manufacturing sector found that the majority of manufacturers were still using outdated and inefficient technology which was incapable of achieving the desired efficiency levels (KAM, 2006). ERP adoption among Kenyan manufacturing firms has been picking up but the full benefits of the adoption are yet to be felt in many the industry (KAM, 2011).

1.2 Problem Statement

The challenge facing many manufacturing organizations implementing ERP in Kenya today is ensuring that ERP projects are implemented successfully and the benefits of the system are realized (Idris, 2009). ERP implementation in Kenyan manufacturing organizations has been marred by many failed projects with one of the main causes of these unsuccessful projects being inadequate vendor support during the course of ERP implementation.

Nzuki and William (2015) did a study on the extent of adoption of ERP by Kenyan manufacturing firms and found many adopters were mainly influenced by organizational factors and they had poor knowledge about the ERP vendors and the software they were buying. Luminita (2009) points out that though the role of an ERP vendor is critical when implementing ERP many organizations confuse this role while contracting the services of the ERP vendor. This passive attitude when it comes to ERP adoption has been replicated in many Kenyan manufacturing organizations and this consequently sees the projects failing.

Chepkoech and Noor (2014) established many Kenyan manufacturing firms as unable to integrate their business processes with the ERP software they were purchasing which led to huge losses. They recommended on the importance of incorporating an experienced vendor to midwife the projects. This finding is echoed by Otieno (2010) who found unskilled ERP vendors to be a major challenge in ERP systems implementation. Momanyi (2014) further argues that one of the

reasons for high failure rate in the implementation of ERP systems in Kenya is the difference in interest between the vendor and the customer. This finding is supported by Otieno (2010) who pointed out Kenyan industries are mainly seen as homogenous groups by the vendors with a false assumption that what works in one industry will work in all.

Many studies done in Kenya have focused on the factors that influence successful ERP implementation in the host organizations with minimal research being done to research on the impact that key stakeholders have on successful ERP implementation. There are also many studies that focus on the organizations implementing ERP with little being done to research on ERP vendors. This study aims to fill this research gap by studying the impact of vendor support on successful ERP implementation in the Kenyan manufacturing industry.

1.3 Research Objectives

This research sought to address the following objectives:

1.3.1 General Objective

This study seeks to determine the influence of vendor support on the successful implementation of any ERP project in manufacturing firms in Nairobi.

1.3.2 Specific Objectives

The study will be guided by the following specific objectives:

- (i) To determine the extent to which vendor training influences successful implementation of ERP in manufacturing firms in Nairobi.
- (ii) To assess the extent to which vendor post implementation support influences successful implementation of ERP in manufacturing firms in Nairobi.
- (iii) To examine the extent to which of vendor project management influences successful implementation of ERP in manufacturing firms in Nairobi.
- (iv) To establish the factors that contribute to successful implementation of ERP in manufacturing firms.

1.3.3 Research Questions

- (i) To what extent does vendor training influence successful ERP implementation?
- (ii) What is the extent of the impact of vendor post implementation support on the eventual success of ERP project?
- (iii) To what extent does ERP vendor project management skills affect successful implementation of ERP?
- (iv) What are the factors that contribute to successful implementation of ERP in manufacturing firms?

1.4 Scope of the study

The scope of this study was the manufacturing sector in Nairobi County. The study focused on the manufacturing sector because it contributes largely to the economic development of Kenya in terms of total output, export earnings and employment creation. The research focused on 40 manufacturing organizations that had implemented ERP within three years prior to this study according to the information gathered from authorized ERP dealers.

1.5 Justification of the study

This study offers valuable contribution to theory and practice. It will be useful to all the players in the Kenyan manufacturing industry. Many Kenyan Manufacturers are implementing ERP and this study will help them know how to incorporate vendor support for the successful implementation of ERP projects in their organizations. The study will also be instrumental in showing how top management can collaborate with project vendors to create a good project management team.

This study will contribute to a better understanding of the impact that software vendors have on the success or failure of ERP projects by helping organizations know how to incorporate vendor support in their implementation process. It will also be useful to ERP software vendors who are very important in the course of ERP project implementation. The software vendors have a very important role in the training requirements as they implement their ERP. Scholars will find this study vital as it will add to the existing body of knowledge on the critical role of ERP vendors

within the Kenyan context. It will also advance scholarly research on the role of ERP vendors in the successful implementation of ERP.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter explores studies that are pertinent and related to this research and provides a conceptual framework for the study. The main focus is on previous studies done and the arguments that other scholars have advanced concerning the influence of vendor support on ERP project success.

2.2 Theoretical review

This study will be anchored on three theories which have been widely used when ERP implementation is being studied. There are many theories that support the context of ERP implementation but this research will focus on three of these three theories: Theory of constraints, Theory of change and the Learning theory.

2.2.1 Theory of Constraints (TOC)

The theory of constraints (TOC) was originally developed by Dr. Eliyahu Goldratt. TOC is a systems methodology which has been progressively developed to assist people and organizations to think about problems, develop breakthrough solutions and implement those solutions successfully (Laukannen et al., 2007). It then encompasses a systematic approach to organizational problems by providing a means of identifying constraining factors preventing a company from achieving its goal through to breaking the constraints and then improving itself. The TOC methodology now comprises three main streams that can be considered as operations strategy tools, performance measurement systems, and thinking process (TP) tools (Cox & Spencer, 1997).

To handle the system's constraints before ERP implementation, TOC employs the following five steps: Identify the system constraint, decide how to exploit the constraint, Subordinate everything else to enable the constraint to operate at maximum output and eliminate the

constraint. Identification of the constraint calls for a thorough examination of all processes in order to find the system's constraints. Once the constraint is identified, TOC recommends observing how the constraint is slowing down the business processes. Once the constraint has been observed and found potentially lethal to the whole business the offending constraint is removed from the whole business process (Ioannou, 2004). In ERP implementation, the approach of TOC focuses solely on bottlenecks in the organization which are then classified into business critical and necessary and then the ERP is brought up as a solution in solving the bottlenecks (Ioannou, 2004). The weakest link that is constraining the system is focused on and then eliminated to offer overall improvement during ERP implementation (Dettmer, 1997).

The theory is therefore based on the hypothesis that ERP implementation is a solution to a problem an organization might be facing. This can be explained by the fact that an ERP vendor assesses the organization intending to implement ERP by conducting a thorough analysis of the company's value chain. This assessment helps the ERP vendor to identify redundancies that can be eliminated by implementing ERP and business functions that will in turn improve due to ERP. The vendor is then tasked with explaining to the management how the ERP software will be a strategic solution to the company's problems. This is also supported by many researchers, who posit that ERP is implemented in organizations because of a problem/problems that can only be solved by an integrated software (Zhenyu et al., 2001; Bingi et al., 1999; Cummings & Worley, 2005).

2.2.2 Theory of Change Management and ERP Implementation

The Theory of Change management is a comprehensive and structured approach for transitioning organizations from the present state to an expected state with the intention of business benefits (Cummings & Worley, 2005). Organizations today are rapidly changing, motivated by either external or internal pressures. All change, whether internally or externally motivated involves adopting new processes, mindsets and behavior.

The implementation of ERP systems is a very complex and costly process that requires a lot of change. Davenport (1996) describes implementing ERP systems as "perhaps the world's largest experiment in business change" and in many organizations "the largest change project in cost and time that they have undertaken in their history .ERP introduces organizational wide change

which can cause resistance, confusion, redundancies and errors, (Somers & Nelson, 2003). Research has proven effective change management critical to successful implementation of new software. Helo et al., (2008) found that unlike in any other information systems, the problems that plagued ERP implementation were are not technologically related issues such as but mostly about organization and human related issues like organizational culture, project mismanagement, resistance to change and top management commitment.

While implementing ERP projects, the changes in the businesses processes must be accompanied by structural and managerial system change in the organization (Pawlowski et al., 1999). The effectiveness of such changes will minimize resistance of the new ERP project by the users. Failure to have an adequate organizational change management attitude will sabotage the entire ERP initiative (Bancroft et al., 1998).

Change is inevitable and it can be harrowing, pervasive or exciting depending on how it is handled. Implementing an ERP system package causes vast change that needs to be managed carefully to get the full advantages (Al-Mashari et al., 2001). Implementing an ERP project without proper change management can affect the morale of your employees and have a cascading effect on their performance, productivity and bottom line.

2.2.3 The Learning Theory of ERP Implementation.

Fiol and Lyles (1985) define organizational learning as the process of improving actions through better knowledge and understanding. Organizational learning is a continuous process, during which information and knowledge is acquired, created, interpreted, distributed, stored, and retrieved (Pentland, 1995). Organizational learning is a very important component in ERP project implementations. In the course of any ERP implementation, it is important for an organization to learn internally and externally.

Marco and Sue (2009) argued that ERP implementation is a process of continuous evolution with no final design being possible. From their perspective, ERP implementation is best viewed not as a one-time process but as a series of processes which encompasses different degrees of reflection and learning. For a company to fully realize the benefits of ERP, it requires considerable training on the new system, its usage, and how it will change the current ways of working (Wortmann,

1998). Gupta (2000), in a detailed illustration of several common problems associated with ERP implementation, found reluctance to learn key among them.

There are several organizational learning process frameworks. Treating organization learning as a cognitive process, Huber (1991) has an elaborate organizational learning framework that encompasses knowledge acquisition, information distribution, information interpretation, and storing and retrieving information from organizational memory. A second organizational learning framework combines both the cognitive and action perspectives of learning and identifies four processes of organizational learning – observing, reflecting, creating and acting (Carroll and Fitz-Gerald, 2003). Based on both cognitive and action components of organizational learning, Crossan et al., (1999) identified four processes, i.e., intuiting, interpreting, integrating and institutionalizing. These processes take place at different levels of organizational learning and the levels interact with each other

Pentland (1995) described the IT adoption process as a learning process. He argued that there is a close relationship between organizational learning and IT implementation. ERP vendors should use techniques like guided learning, formal training and knowledge creation activities to familiarize clients to the vital knowledge required for a successful implementation (Gable, 2003). This helps save the client considerable time and effort in knowledge search costs. Learning should not stop at the implementation process but should also continue to the post implementation stage. In essence, learning should take place every time there is an upgrade made or a new module is introduced (Luminita,2009).

2.4 Empirical Literature Review

This study is being conducted to research on the influence of vendor support on successful implementation of ERP in manufacturing firms. This section will therefore explore the various empirical studies that have been done by various researchers on vendor roles and the impact that these roles have on successful ERP implementation.

2.4.1 Vendor Training and Successful ERP Implementation

ERP Training is the acquisition of knowledge and skills that aid the end user understand how to use the ERP software in their daily work (Bradely et al., 2007). Training is an integral part of

ERP implementation. Considering the millions manufacturing companies invest in their ERP systems few end users in these companies have a good understanding of the features in the software. By interviewing top management, ERP project managers and end users, Tsai et al.,(2005) found insufficient training to be a critical failure factor. Failing to train the end users effectively on features of the software will waste a large part of the investment.

Inadequate training has been identified as a factor that can lead to challenges during the ERP implementation by many researchers (Nah & Lau 2002; Somers & Nelson 2004; Otieno, 2010). In the Kenyan context, this finding is echoed by Christopher (2011) who found inadequate training among other factors to have caused challenges in implementing ERP at the Kenya Electricity Generating Company. Gatimu (2009) also identified inadequate training to be a major cause of failed ERP projects in the Kenyan education sector.

Kumar et al., (2008) had contrasting views on training. He found many users were averse to training because of the complexity of the training methods used. Ngai and Gable (2010) further argued that training should be done in view that the end user should be trained on the standard and basic functionalities of the system, with the more experienced information technology personnel being trained on the intricacies of the software. They recommended finding a balance between engaging on a level the user could understand while ensuring the vital knowledge and skill, required to operate the system was being imparted.

Al Mashari et al (2003) urged ERP vendors to employ several training methods due to the diverse needs of the software users. In their study on ERP training methods, Luliana and Floarea (2012), found that application of one training method in the course of ERP implementation was not a feasible choice in the long run. They advise the ERP vendors to use different training methods to deliver better knowledge and skills transfer.

Many researchers agree the efficiency and effectiveness of the ERP training program comes from application of training strategies at the initial stage of implementation which should continue even after the post implementation stage (Umble et al., 2003; Holland & Light 1999; Sumners, 1999). Though in many companies the training budget is usually the first to be axed once the project runs over budget, Luliana and Florea (2012) warn this could lead to failure of the project altogether.

While there is no agreed standard training method, a consensus is emerging in relation to ERP training methods. The training method chosen by the vendor should be user focused, flexible and diversified in its instructional design (Fayez & Salam, 2009; Nah & Lau, 2002). After the training is done, monitoring and evaluation should be done to ensure that the training achieved its intended mission. The training process should be seen as a continuum, something that will not finish after the go-live of the ERP system and it should follow along all the phases of the ERP lifecycle (Esteves et al., 2001).

2.4.2 Vendor Project Management and Successful ERP implementation

A successful ERP implementation relies on many stakeholders but the involvement of ERP vendors in project management is critical. Ara and Al-Mudimigh (2011) define project management as the application of knowledge, techniques and skills to an ongoing project to meet its requirements. Sumner (1999) suggests that the project management team should always include the ERP vendors in order to have technical skills for design and implementation. In many organizations implementing ERP, the project managers have been mainly internally drawn with no incorporation of the ERP vendors. This factor, when overlooked in the constitution of a project management team was shown to have a high correlation for failure (Al-Mudimigh et al., 2000).

The success of technological innovations has often been attributed to a strong project management team (Holland & Light, 1999; Al-Mudimigh et al., 2000) but Welti., (1999) explained many factors associated with poor ERP implementation could be directly linked to poor project management. He further recommended the incorporation of ERP vendors into the project management team to achieve the balance between the internal members of the project team and external members.

In a study by Somers and Nelson (1999) they emphasized on the skills, abilities and experience of the project managers. In a project as pervasive as an ERP project, they urged on the importance of having vendors who are both skilled in the software capabilities and dealing with people to be part of the project managers. This finding is reiterated by Al-Mashari., (2003) who found that the vendors should not only be skilled in the software capabilities but should also have the ability to communicate clearly with stake holders, engage people and operate with styles that

build trust. ERP implementation is about people and having a strong project management team is a key ingredient for the successful implementation of the project.

In the Kenyan context Otieno (2010) found that there was a general lack of project management skills especially when implementing massive information technology projects like ERP. The reason for this disconnect, he insists is caused by the failure of many managers to understand that this project is as much a people's project as it is an information technology project. Markus et al., (2003) goes further to add that in many instances the project committee is not inclusive of the ERP vendors and consultants. The consequence of this finding is further elaborated by Umble et al.,(2003) who argues that ERP vendors are very critical in the project management of ERP projects because in many instances they make up for the clear lack of people skills among the top management.

Sumner (2005) opines incorporation of ERP vendors in the project management team is an important critical success factor since successful ERP projects have a “vendor-accelerated implementation strategy” ensuring timely implementation of the systems. The management and the vendors should work as a team since team work in the ERP implementer-vendor partnership is a key factor influencing ERP implementation success (Nah et al., 2001).

2.4.3 Vendor Post- Implementation Support and Successful ERP Implementation

Post implementation stage of ERP is the stage when the system “goes-live” in the hands of the end users until when it is replaced with a new one. According to Gelinas and Sutton, (2002) post implementation stage of an ERP project consists of a post implementation review, support and maintenance. Successful ERP implementation is not realized when the projects ends on time and within the given budget, its realized when the software is integrated with the business processes.

The success of the post-implementation stage of ERP is a complicated concept which is denoted by perspectives such as organizational performance and realized business benefits in the organization (Ifinedo & Nahar, 2006; Sedera & Gable, 2004). According to Al-Mashari, (2003), the epitome of the post implementation success is realized when the organization acquires benefits from the deployed system.

During the post implementation stage, the effects of uncontrolled problems in the previous stages appear as users start to exploit and evaluate the system. The vendor should review the project to find out whether it is doing what it was intended to do. He should then assign a team to collect the information needed for the post implementation review by interviewing the end users, managers and administration (Holland & Light, 2001). This review aids in finding out user satisfaction, features frequently used and those not used at all. When the review is completed, the vendor should start to effect any needed changes in the system.

In his empirical study on factors that influence post implementation success Moussa (2013) found vendor support to be a critical factor in the successful implementation of ERP. In his study, he expounds that post implementation success is greatly dependent on the quality of vendor support that is received. This finding is consistent with the work of Koh et al., (2005) who emphasized on the importance of having qualified vendors at all stages of the ERP implementation.

Many researchers have agreed that ERP implementation should not be seen as a one off endeavor but as a continuous process (Al-Mashari, 2003; Moussa, 2013; Luminita, 2009). But the top management, sometimes sees this process as complete once the system goes live. According to Peng & Nunes (2010) top management support goes hand in hand with vendor support during the post implementation stage. They should set aside sufficient funds and be willing to maintain, improve and upgrade the installed systems.

In the post implementation phase, additional capabilities are also integrated into the ERP system to obtain additional benefits. Practices such as review, evaluation, upgrade and maintenance take place during the post implementation phase to ensure benefit realization (Nicoalou, 2004). Esteves and Pastor (2002) also concur that the ERP vendors should regularly check and update the system during this time.

2.4.4 Factors influencing successful ERP Implementation

Many researchers have tried to find out what it means to have a successful ERP project. The high failure rate of ERP projects requires a better understanding of its critical success factors (Somers et al., 2000). The process of implementing ERP solutions is ridden with risk and affects

processes and people (Appuswamy, 2000). In order to find out why so many ERP projects fail, it is imperative to know the factors that make them succeed in any organization.

The successful implementation of ERP is taken viewed differently by many stakeholders. Dedzar et al., (2011) opines that the eventual success of an ERP project depends on the view point of the people evaluating it. ERP vendors and project managers recognize ERP success as completion of the project within the stipulated budget and on time. Hein (2008) found ERP system users judge ERP success by having smooth operations with the system, On the other hand, the top management believe that an ERP system is successful when the organization achieves the pre-determined goals, (Somers & Nelson, 2004).

Due to the high levels of failure rates experienced during ERP implementation, there have been numerous researchers who have proposed lists of Critical Success Factors (CSF's) to tackle the complexities of implementing ERP. Somers and Nelson (2004) view CSF's as the pillars of successful ERP implementation whose effect is more profound when viewed in the various stages of ERP implementation.

Some researchers like (Akkermans & Helden, 2002; Al-Mashari et al., 2003; Nelson & Somers, 2000; Bingi et al., 1999; Holland & Light, 1999; Sumners, 1999) developed long lists of CSFs (Critical Success Factors). For example, Sumners (1999) identified the following CSF's; justification of project costs, business process re-engineering, implementation strategy, vendor support, top management support, training and commitment. Some of the main CSFs identified by researchers are; clear understanding of strategic goals, commitment by top management, organizational change management, excellent project management, teamwork, data accuracy, training and business process re-engineering. Researchers have prioritized CSF's as the main factors that should be taken seriously by organizations implementing ERP.

Though CSFs are useful in predicting the successful outcome of ERP projects, Robey et al., (2002) argued that they are generalized and not industry specific which makes it hard to apply them in different business contexts. This finding is echoed by Zhang et al., (2003) who argues that the application of generalized CSFs to an ERP implementation project might not lead to a successful outcome. The exact number of CSFs necessary to implement an ERP project successfully is a widely debated subject that has not really received closure. Dedzar et al., (2011)

opines that this could be mainly due to contextual differences between implementing organizations. Due to the many CSFs identified Leopoldo and Otieno (2005) urges organizations implementing ERP to take each of these factors with importance since and they should never be viewed in isolation.

2.5 Research Gap

Despite ERP vendor support receiving notable mention as a factor critical for successful ERP implementation (Kumar et al., 2003; Nejb,2013; Mishra & Mishra, 2011), most literature has focused on host companies with little attention paid to the ERP vendor's perspectives of successful ERP implementation (Soh et al., 2000). Finney and Corbett (2007) detailed reviews of ERP literature confirms this finding.

In his study, Otieno (2010) found ERP vendor support to be one of the most neglected issues related to ERP implementation. Studies done in the Kenyan context on ERP seem to focus more on the factors that may lead to the success or failure of ERP implementation with inadequate studies done to evaluate the importance of these factors individually. These factors, though highly researched on in many foreign literature, they are yet to receive in depth review in the Kenyan context.

There is therefore a need for a research regarding the influence ERP vendor support has on the successful implementation of ERP projects. This study seeks to fill this gap by clarifying the support role of an ERP vendor in an ERP project and how this role can be used to ensure successful ERP implementation.

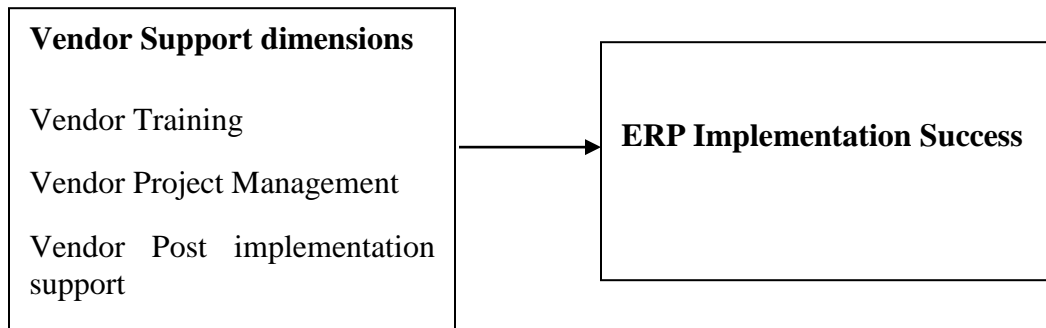
2.6 Conceptual Framework

A conceptual framework is a structure that represents the research being done. This conceptual framework has been conceived from principles taken from relevant literature reviewed. In this study, the independent variable; vendor support will be influencing the dependent variable ERP implementation success.

Figure 2. 1 Conceptual Framework

Independent Variable

Dependent Variable



Source: Researcher (2016)

2.6.1 Operationalization of the Variables

Operationalization of the variables breaks down the concepts under research into constructs with observable characteristics which can be measured. The variables were operationalized and measured using constructs which were assessed on a five point rating scale ranging from 1=strongly disagree-5=strongly agree. A rating scale was used to capture attitudes, opinions and qualitative data that would have otherwise proved difficult to measure effectively.

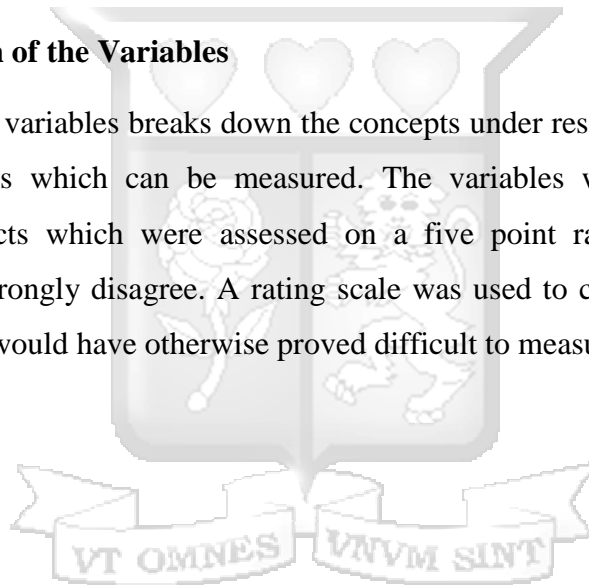
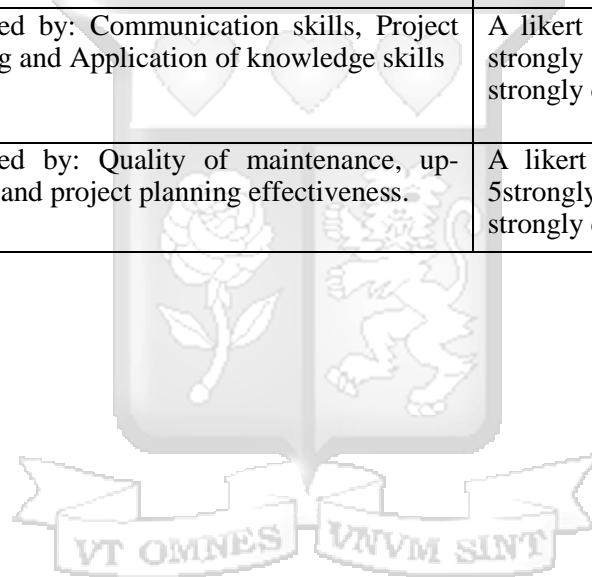


Table 2.2 Operationalization of the Variables

| Variable | Operational Definition | Measurement | Source |
|------------------------------------|--|---|-----------------------------|
| Dependent Variable | | | |
| Successful ERP implementation | Measured by the following constructs (critical success factors): Top management support, clear goals and objectives, effective change management, effective communication, | A likert scale of 1-5 Strongly agree – strongly disagree | (Somers and Nelson, 2004) |
| Independent Variables | | | |
| Vendor training | Measured by the Following constructs: Managerial Reaction, Behaviour results and costs | A likert scale of 1-5 strongly agree – strongly disagree | (Esteves et al, 2002) |
| Vendor Project Management | Measured by: Communication skills, Project planning and Application of knowledge skills | A likert scale of 1-5 strongly agree – strongly disagree | (Ara and Al-mudimigh, 2011) |
| Vendor Post implementation support | Measured by: Quality of maintenance, upgrades, and project planning effectiveness. | A likert scale of 1-5 strongly agree – strongly disagree | (Moussa, 2013) |



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that was used to carry out the survey, the selection of the research design, population, sampling method, data collection instrument and how data will be analyzed, interpreted and presented. The purpose of this study was to determine the influence of vendor support on ERP success in manufacturing companies in Nairobi.

3.2 Research Design

The research design that was adopted was a cross-sectional descriptive research design and correlational analysis. Cooper and Schindler (2000) described descriptive research design as one concerned with finding out the, who, what, where, when and how much. It also allows the researcher to collect information from a broad sample space and use the findings to generalize the inference to validate the study (Sekaran, 2005). Correlation analysis aids a researcher in finding the relationship between two variables hence reducing the degree of uncertainty pertaining the influence the independent variable has on the dependent variable (Ezekiel & Fox, 1959).

3.3 Population of the Study

The target population was 40 manufacturing companies that had implemented ERP within three years prior to this study according to the information gathered from authorized ERP dealers.

3.4 Sampling Design

Cooper and Schindler, (2006) referred to a sampling design as a list of units that are drawn from the target population. The listing forms the basis from which the sample is drawn. This study looked at all the identified 40 manufacturing organization. This is because these companies were in the time period of the study, which was within three years. A census survey of all the identified organizations was conducted. The sampling units were the ICT departments in the listed organizations. The sample elements were ERP functional heads who were the key

informants in their respective organizations. The sampling elements were chosen because they were best suited to answer questions about the ERP vendor and the impact the vendors had on successful ERP implementation. A census survey was carried out also since the manufacturing organizations had all implemented ERP and were therefore relevant in the study.

3.7 Data Collection

The primary data was collected in the form of structured questionnaires. The questionnaires were structured into Part A which collected firm profile data to find out about the respondent profile and information about company, Part B collected information about the role of an ERP vendor in successful ERP implementation and Part C sought to establish factors that influence successful implementation of ERP in the manufacturing organization. A drop and pick later approach was used. The questionnaires were taken to the respondents offices who were then requested to fill them in in one week's time. After one week the questionnaire were duly collected. The target respondents were ERP functional heads in the respective manufacturing firms. Techniques to minimize non response included email follow up, telephone calls and mail prompting outlining the importance of replying.

3.8 Data Analysis and Presentation

This section discusses the techniques that were used to analyze the data and test the variables. The data collected from the questionnaires was carefully checked for completeness and accuracy then cleaned for consistency. The data was then coded with code numbers assigned to each answer of the question to generate a coding frame which was then fed into the computer SPSS software. The data was then analyzed using descriptive statistics to determine the mean scores, frequencies and standard deviation. Multiple regression analysis is one of the most widely used statistical procedures for both scholarly and applied marketing research. This tool allows one to examine how multiple independent variables are related to a dependent variable .

3.9 Validity and Reliability

Reliability is the assessment of the consistency and stability of variables being measured. Reliable data should be able to give the same results as it did the first time when it was measured. Any difference in the results on second repeat means the data is unreliable. The Cronbach alpha

was used to determine the consistency of items being surveyed. A cronbach alpha of 0.7. coefficient indicates sound and reliable measures with a Cronbach Alpha close to 1 indicating greater consistency.

Vendor training, vendor project management, vendor post implementation support and successful ERP implementation each had a Cronbach's alpha of 0.702, 0.768, 0.753 and 0.721 respectively. The higher the value of the Cronbach's Alpha the more the factor contributes to the variable under study. Therefore these tests showed that these three variables could reliably explain the dependent variable- successful ERP implementation.

Table 3.1 Cronbach's Alpha test

| Variable | Cronbach's Alpha | No of Items |
|-------------------------------|------------------|-------------|
| Vendor training | .702 | 7 |
| Vendor project management | .768 | 9 |
| post implementation support | .753 | 10 |
| Successful ERP implementation | .721 | 11 |

3.10 Ethical considerations

Ethics is conducting oneself in accordance to the principles of conduct which are considered correct especially in a certain profession or group (Kumar, 2005). Ethical issues concerning research subjects are confidentiality, anonymity, voluntary and informed consent. The researcher provided anonymity by separating the identity of individuals from the information collected.

The researcher also liaised with the Human Resource functions of respective manufacturing companies to seek permission to conduct the survey in the respondents' premises. This allowed the facilitation of the data collection process based on clear rules, guidelines and ethical considerations of the organizations under study. With regards to ethical behavior, the participants (manufacturing organizations) were allowed to freely choose to be part of the study or not. The questionnaire was accompanied by an introductory letter from the University detailing the researcher's full name, institution of study and the purpose of the survey.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

The main objective of this study was to determine the influence of vendor support on the successful implementation of ERP in manufacturing firms in Nairobi. This chapter presents the analysis and findings of the study as set out in the research methodology. The research data was gathered exclusively through questionnaires which were designed in line with the research objectives of the study. To enhance the quality of the obtained data, likert type questions were used whereby respondents indicated the extent to which the variables were practiced in a five point likert scale.

4.2 Response rate

The key informants in this study were the IT managers of the identified manufacturing organizations in Nairobi County. These personnel were selected because they are responsible for working together with the ERP vendors in implementing ERP in their respective organizations. A total of 40 manufacturing organizations were selected. Out of the 40 only 33 responded giving a response rate of 83%. Babbie (1989) claimed that a response rate of 50 % is considered adequate, that at which is at 60% as good and 70% as very good.

4.3 Firm profile

This profile will include a basic summary of the respondent's firm. The study sought to determine when the ERP was implemented in the respondent's organizations and it was discovered that 25 firms, (75%) of the firms had implemented ERP two years ago which made those firms more feasible for this study. The study also sought to find the number of employees in the organizations that were surveyed with the results revealing that majority of the firm's 60% had between 100-200 people. In the firm profile, the researcher also sought to find out the ownership of the organization, and it was established that 90% of the firms being locally owned and the rest being either foreign owned or having a combination of both local and foreign

ownership .SAP ERP software was also found to be the most prevalent form of software used in the manufacturing organizations, with 60% of the companies using it.

4.3 Effects of Vendor Support and Successful ERP Implementation

Vendor support was measured in three variables: (vendor training, vendor post implementation support and vendor project management) .A set of statements for each variable were presented to the respondents who were then requested to express their degree of agreement on a five point Likert scale where 1 = Strongly agree, 2 = agree, 3 = Somewhat Agree, 4 = Disagree and 5 = Strongly disagree.

4.3.1 Vendor project management and successful ERP implementation

The respondents were asked to express their degree of agreement with the statements below in relation to project management.

Table 4.1 Vendor project management and successful ERP implementation

| Vendor Project Management | | | | | | | |
|---|---------------------------|-------------|--------------|--------------|--------------|--------|---------|
| Statements | Frequency and Percentages | | | | | Mean | SD |
| | 1 | 2 | 3 | 4 | 5 | | |
| Vendor displayed professionalism and quality service | 6.1 (2) | 15.2 (5) | 12.1 (4) | 27.3 (9) | 39.4 (13) | 3.7879 | 1.29319 |
| Vendor was knowledgeable and highly skilled | 6.1 (2) | 6.1 (2) | 27.3 (9) | 60.6 (20) | 0 | 4.4242 | 0.86712 |
| The cost estimates and milestones were achieved within the planned time frame | 15.2 (5) | 9.1 (3) | 21.2 (7) | 36.4 (12) | 18.2 (6) | 3.3333 | 1.31498 |
| The ERP vendors were good and effective communicators | 21.2 (7) | 12.1 (4) | 18.2 (6) | 36.4 (12) | 12.1 (4) | 3.0606 | 1.36792 |
| Resources were allocated appropriately during the implementation | 12.1 (4) | 21.2 (7) | 27.3 (9) | 33.3 (11) | 6.1 (2) | 2.8999 | 1.14564 |
| Vendors communicated significant changes to the relevant parties | 18.2 (6) | 12.1 (4) | 30.3 (10) | 21.2 (7) | 18.2 (6) | 3.0909 | 1.35471 |
| The ERP vendors were organized | 9.1 (3) | 15.2 (5) | 15.2 (5) | 24.2 (8) | 36.4 (12) | 3.6364 | 1.36515 |
| Conflicts were handled quickly and efficiently | 3 (1) | 6.1 (3) | 36.4 (12) | 39.4 (13) | 15.2 (5) | 3.5758 | 0.93643 |
| The staff were well prepared for the change | 9.1 (3) | 21.2 (7) | 24.2 (8) | 15.2 (5) | 30.3 (10) | 3.3636 | 1.36515 |

(1 = Strongly agree, 2 = agree, 3 = Somewhat Agree, 4 = Disagree and 5 = Strongly disagree)

The table above has frequency scores in percentage as well as the mean score and standard deviation for each response. Appropriate resource allocation during the implementation process had the highest mean at 2.8999 while the respondents disagreed on the vendor knowledgeability and skill in the implementation process at 4.4242.

Under project management, the research also sought to find out if the ERP vendors completed the ERP project within the set time and planned budget. This is because completion of ERP project within the expected timelines and budget are important factors of project management. The results found 54% of the organizations were completed within the set budget while 46% were not completed within the set budget. On timely completion of the project, 20 organizations (60%) had completed on time while 13 organizations, (40%) had not completed on time.

4.3.2 Vendor training and successful ERP implementation

The respondents were also required to evaluate the influence of vendor training on successful ERP implementation by rating the statements below on a likert scale.

Table 4.2 Vendor training and successful ERP implementation

| Vendor training | | | | | | | |
|--|---------------------------|--------------|--------------|-------------|-------------|--------|---------|
| Statements | Frequency and Percentages | | | | | Mean | SD |
| | 1 | 2 | 3 | 4 | 5 | | |
| | % | % | % | % | % | | |
| Training was given adequate importance | 54.5 (17) | 27.3 (9) | 12.1 (4) | 6.1 (3) | 0 | 1.697 | 0.91804 |
| Continual training was more effective than training for a limited period | 48.5 (16) | 30.3 (10) | 15.2 (5) | 6.1 (2) | 0 | 1.7879 | 0.92728 |
| The end users acquired technical knowledge and skills | 30.3 (10) | 21.2 (7) | 12.1 (4) | 24.2 (8) | 12.1 (4) | 2.6667 | 1.45057 |
| End user training is a Key factor in ERP implementation success | 54.5 (18) | 33.3 (11) | 12.1 (4) | 0 | 0 | 1.5758 | 0.70844 |
| Many training methods were more effective than one training method | 57.6 (19) | 30.3 (10) | 9.1 (3) | 3 (1) | 0 | 1.6758 | 0.79177 |
| The end users understood how to use software and its embedded features | 24.2 (8) | 12.1 (4) | 33.3 (11) | 18.2 (6) | 12.1 (4) | 2.8182 | 1.33357 |
| The training enhanced the user's proficiency and level of knowledge | 69.7 (23) | 24.2 (8) | 3 (1) | 3 (1) | 0 | 1.3939 | 0.70442 |

(1 = Strongly agree, 2 = agree, 3 = Somewhat Agree, 4 = Disagree and 5 = Strongly disagree)

The results indicated that the respondents strongly agreed that ERP training was given adequate importance by the ERP vendor which contributed to successful ERP implementation. The enhancement of the user's proficiency and knowledge level after training had the highest mean of 1.4 showing that the respondents agreed that training contributes heavily to the successful implementation of ERP. The end users also indicated that they preferred many training methods to just a single training method as shown by a mean of 1.67. This indicates the willingness of the users to accept diverse training methods instead of a single method which might be monotonous when in constant use.

4.3.3 Vendor post implementation support and successful ERP implementation

The table above shows the findings of the level of influence of post implementation support on successful ERP implementation.

Table 4.3 Vendor post implementation support and successful ERP implementation

| Vendor Post Implementation Support | | | | | | | |
|--|-------------|-------------|--------------|--------------|--------------|--------|---------|
| Statements | Percentages | | | | | Mean | SD |
| | % | % | % | % | % | | |
| The ERP vendor was involved in the post implementation stage | 18.2 (6) | 24.2 (8) | 18.2 (6) | 33.3 (11) | 6.1 (2) | 2.697 | 1.33428 |
| The ERP system is compatible with the organizational business processes | 24.2 (8) | 21.2 (7) | 27.3 (9) | 15.2 (5) | 12.1 (4) | 2.697 | 1.33428 |
| A post implementation review was done to determine the effectiveness of the software | 21.2 (7) | 24.2 (8) | 33.3 (11) | 9.1 (3) | 12.1 (4) | 2.6667 | 1.26656 |
| The ERP system fulfilled its set objectives | 3 (1) | 9.1 (3) | 33.3 (11) | 33.3 (11) | 21.2 (7) | 3.6061 | 1.02894 |
| The upgrade decision is mainly made by the ERP vendors | 18.2 (6) | 18.2 (6) | 21.2 (7) | 30.3 (10) | 12.1 (4) | 3 | 1.32288 |
| The upgrade decision is mainly made by the ICT management | 18.2 (6) | 12.1 (4) | 24.2 (8) | 6.1 (2) | 39.4 (13) | 3.3636 | 1.55761 |
| End users are trained after every upgrade made | 18.2 (6) | 12.1 (4) | 24.2 (8) | 24.2 (8) | 21.2 (7) | 3.1818 | 1.40211 |
| Vendor updates the software regularly | 21.2 (7) | 21.2 (7) | 18.2 (6) | 6.1 (2) | 33.3 (11) | 3.0909 | 1.58831 |
| Errors and defects on the software are investigated in a timely manner | 15.2 (5) | 18.2 (6) | 36.4 (12) | 12.1 (4) | 18.2 (6) | 3 | 1.29904 |
| End users are satisfied with the quality of post implementation support | 3 (1) | 12.1 (4) | 33.3 (11) | 21.2 (7) | 30.3 (10) | 3.6364 | 1.14067 |

(1 = Strongly agree, 2 = agree, 3 = Somewhat Agree, 4 = Disagree and 5 = Strongly disagree)

From the responses one can deduce that there was a somewhat lack of consensus on the statements concerning post implementation support and the influence it had on successful ERP implementation. The respondents agreed that a review of the software was done after it went live as indicated by a mean of 2.66. The involvement of the ERP vendor in the post implementation stage and the compatibility of the ERP system with the existing business processes both had a mean of 2.69 respectively. The satisfaction with the quality of post implementation support offered by ERP vendors had the lowest mean at 3.6364. This explains why the respondents also disagreed on whether the software fulfilled the set objectives as indicated by a mean of 3.6061.



4.3.4 Factors influencing successful ERP implementation

The respondents were also asked to evaluate the factors that influence successful ERP implementation in their respective organizations. Each respondent was asked to evaluate the factors that influence successful ERP implementation in their respective organizations in respect to the dimensions shown above. The responses were made on a five-point Likert scale and the findings were summarized as shown in the table above. The respondents rated top management support as having the highest influence on successful ERP implementation at 1.3636. The conduct of change management within the company's culture had the least rating at 2.8182 which showed that the respondents were not too sure about the effectiveness of a well conducted change management in influencing the success of the ERP implementation

Table 4.4 Successful ERP implementation

| Successful ERP Implementation | | | | | | | |
|--|---------------------------|--------------|--------------|-------------|-------------|--------|---------|
| Statements | Frequency and Percentages | | | | | Mean | SD |
| | % | % | % | % | % | | |
| Top Management support | 66.7 (22) | 30.3 (10) | 3 (1) | 0 | 0 | 1.3636 | 0.54876 |
| Effective team work | 48.5 (16) | 48.5 (16) | 3 (1) | 0 | 0 | 1.5455 | 0.56408 |
| Well- articulated business vision and goals | 15.2 (5) | 33.3 (11) | 30.3 (10) | 12.1 (4) | 9.1 (3) | 2.6667 | 1.16369 |
| Well conducted change management | 12.1 (4) | 24.2 (8) | 42.4 (14) | 12.1 (4) | 9.1 (3) | 2.8182 | 1.10268 |
| The existing business legacies matched with the software | 36.4 (12) | 15.2 (5) | 24.2 (8) | 12.1 (4) | 12.1 (4) | 2.4848 | 1.41689 |
| Business Process Re-engineering | 33.3 (11) | 30.3 (10) | 24.2 (8) | 12.1 (4) | 0 | 2.1515 | 1.03444 |
| Monitoring and evaluation of the project | 51.5 (17) | 48.5 (16) | 0 | 0 | 0 | 1.4848 | 0.50752 |
| Effective project and scope management | 42.4 (14) | 33.3 (11) | 9.1 (3) | 6.1 (2) | 9.1 (3) | 2.0606 | 1.27327 |

(1 = Strongly agree, 2 = agree, 3 = Somewhat Agree, 4 = Disagree and 5 = Strongly disagree)

4.4 Correlation analysis

The study also sought to find out the relationship between the independent variables and the dependent variables using a correlational analysis and the results are summarized below.

Table 4.5

| Correlations | | | | | | |
|--|-------------------------------|-------------------------|-------------------------------|-----------------|-----------------------------|--------------------|
| | | | Successful ERP implementation | Vendor training | Post implementation support | Project management |
| Spearman's rho | Successful ERP implementation | Correlation Coefficient | 1.000 | .509** | .433* | .343 |
| | | Sig. (2-tailed) | | .003 | .012 | .051 |
| | | N | 33 | 33 | 33 | 33 |
| | Vendor Training | Correlation Coefficient | .509** | 1.000 | .871** | .788** |
| | | Sig. (2-tailed) | .003 | . | .000 | .000 |
| | | N | 33 | 33 | 33 | 33 |
| | Vendor post implementation | Correlation Coefficient | .433** | .399* | 1.000 | .536** |
| | | Sig. (2-tailed) | .012 | .026 | . | .002 |
| | | N | 33 | 33 | 33 | 33 |
| | Vendor project management | Correlation Coefficient | .343* | .788 | .695** | 1.000 |
| | | Sig. (2-tailed) | .051 | .000 | .000 | . |
| | | N | 33 | 33 | 33 | 33 |
| ** Correlation is significant at the 0.01 level (2-tailed) | | | | | | |
| * Correlation is significant at the 0.05 level (2-tailed) | | | | | | |

As per the correlation matrix, two of the independent variables associated positively with successful ERP implementation, the dependent variable at varying degrees. Vendor training and post implementation support had a positive correlation coefficient value of 0.509 at 0.01 level of significance with a P value of 0.01. Vendor post implementation support also had positive correlation coefficient value of 0.433 at 0.012 level of significance with a P value of 0.05. Correlation between vendor project management was insignificant. ($P < .001$ for a two-tailed test). Therefore only vendor training and vendor post implementation support had a positive significant linear relationship with firm performance.

4.5 Regression analysis

The regression analysis should the relationship between the dependent and independent variables of the study and determined the influence of the vendor project management, training and post implementation support on successful ERP implementation.

The regression equation was:

$$Y = \beta_0 + \beta_1 \text{ project management} + \beta_2 \text{ training} + \beta_3 \text{ post implementation support}$$

Where:

Y is the dependent variable - Successful ERP implementation.

β_0 is the regression constant

$\beta_1, \beta_2, \beta_3$ are regression coefficients

The regression results for the model are summarized below:

Table 4.6 :Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|-------------------|----------|-------------------|----------------------------|
| 1 | .770 ^a | 0.64 | 0.534 | 3.99935 |
| a. Predictors: (Constant), Vendor Post implementation, Vendor Project Management, Vendor Training | | | | |

The R value is used to explain how well the whole model describes the data. In this case, the model explained 77% of the data. R² (co-efficient of determination) explains the extent to which the independent variables vendor project management, vendor training and vendor post implementation support explained the dependent variable. In this case R² is 64% of the independent variable, successful ERP implementation.

Table 4.7: Anova results

| Model | Sum Squares | Df | Mean Square | F | Sig. |
|------------|-------------|----|-------------|---------|-------------------|
| Regression | 7299.484 | 3 | 2433.161 | 152.122 | .000 ^a |
| Residual | 463.85 | 29 | 15.995 | | |
| Total | 7763.333 | 32 | | | |

a. Predictors: (Constant), Vendor Post implementation, Vendor Project Management, Vendor Training b. Dependent Variable: Successful ERP implementation

The table above presents the analysis of variance (ANOVA). This section provides the overall statistics of the overall fitness of the model. By looking at the sig value also known as the P-value, one is able to determine whether the independent variable explain the dependent variable. In this study, ANOVA results indicated that the overall model is significant ($p < 0.05$). It showed that the independent variables significantly ($F = 152.122$, $p = 0.000$) explain the variance in successful ERP implementation.

Table 4. 8: Co-efficient Analysis

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|-------|---------------------|-----------------------------|------------|---------------------------|-------|-------|
| | | B | Std. Error | Beta | | |
| 1 | (Constants) | 21.419 | 8.136 | | 2.633 | 0.013 |
| | Vendor Training | 2.031 | 0.359 | 0.665 | 5.663 | 0.000 |
| | Post-implementation | 0.424 | 0.079 | 0.368 | 5.377 | 0.002 |
| | Project-management | 0.001 | 0.102 | 0.001 | 0.010 | 0.992 |

a. Dependent Variable: Successful ERP implementation

The model shows a statistically significant positive relationship between vendor training and successful ERP implementation where P is equal to 0.000. For a variable to be significant in the model its P-value should be less than 0.05 ($p < 0.05$). A statistically significant positive relationship was also noted between post implementation support $P = 0.002$ and successful ERP implementation. Vendor project management had a P value of 0.992 and was therefore

insignificant in explaining successful ERP implementation. From the regression model, the following regression equation was derived:

$$Y = 21.419 + 2.031X_1 + 0.424X_2 + 0.001X_3 + e$$

From the above regression model, when project management, training and post implementation are 0, successful ERP implementation would be 21.419. A unit increase in training would yield a 2.031 increase in successful ERP implementation; a unit increase in post implementation support would yield a 0.424 increase in successful implementation while a unit increase in project management would yield a 0.001 increase in successful ERP implementation.



CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of the findings from chapter four, and it gives the conclusions and recommendations of the study based on the objectives of the study. The overall objective of the study was to determine the influence of vendor support on successful ERP implementation.

5.2 Discussion of the findings

This section explains the main findings of the study in line with the specific study objectives.

5.2.1 Extent to which vendor training influences successful ERP implementation

The research established that vendor training had a positive and significant effect on ERP implementation as indicated by a P value of 0.000 ($p < 0.05$). The study also showed a positive correlation (50.9 %) between vendor training and successful ERP implementation albeit to a moderate extent. This finding was in agreement with other researchers like (Bingi et al., 1999; Kumar et al., 2002; Trimmer et al., 2002; Mandal and Gunasekaran, 2003) who emphasized on the importance of training in the course of ERP implementation. In the Kenyan context Gatimu (2009) found that inadequate training was one of the challenges that caused the failure of ERP projects.

Of a worthy note, is the fact that there was a general lack of consensus on the user understanding of the embedded processes in the software. This can be explained by the fact that many trainers focus on the basics when training the end users which robs the end users of the ability to understand intricate processes of the software (Esteves & Pastor 2001). The results on training further showed that many training methods were more preferred than one training method which contradicts previous studies that urged ERP vendors should stick to a single standard training method for consistency (Wang et al., 2006).

5.2.2 Extent to which vendor project management influences successful ERP implementation

The survey revealed that vendor project management did not influence successful ERP implementation. In this study, project management had an insignificant correlation with successful ERP implementation. These findings contradict previous studies like Gargeya & Brady (2005) who identified vendor project management as critical to the successful implementation of ERP. Otieno (2010) can explain this contradiction in his study on Kenyan ERP systems and upgrades where he insisted that there was a general lack of project management skills especially when implementing ERP in the Kenyan context. He identified a general lack of project management skills in the ICT sector which generally caused low levels of delivery on ERP projects. The respondents also indicated that the vendors had little knowledge of project management skills, lacked performance monitoring and they had unclear business plans and vision.

The study also found that most of the projects were not completed on time. The incompleteness of these projects on time meant that they would also have cost overruns, with almost half of the projects exceeding the planned budget. These findings can be explained by lack of clear project plan and goals. Umble et al., (2003) indicates that clear project plan and a clear definition of the project objectives help organizations to avoid the “scope-creep”, which can blemish the whole ERP project.

5.2.3 Extent to which post implementation support influences successful ERP implementation

The study identified post implementation support to be significant in influencing successful ERP implementation. This finding is supported by Luminata (2009) who asserted that the implementation of ERP does not stop at the go live stage but continues for as long as it is used in the organization. Using the descriptive statistics it was discovered that an audit of the software was done after the implementation. Holland and Light (2001) recommended an audit of the software immediately after going live and when the system matures so that the impact it has on the organization can be evaluated. A well planned and well executed post implementation

support of ERP systems should aid organizations to effect changes in organizational plans and processes (Ross & Vitale, 2000).

The findings also found the respondents to be unsatisfied with the quality of post implementation support that they received. This finding can be explained by the fact that many of the local ERP vendors source the software from foreign firms and are sometimes not well experienced to do effective post implementation audits Otieno (2010). This factor coupled with unreliability of some vendors renders the quality of post implementation support very poor and unsavory.

5.2.4 Factors influencing successful ERP implementation

Successful ERP implementation was found to be majorly influenced by top management support and effective team work using the descriptive statistics. These findings are in line with Yusuf et al., (2004) and Al-Mashari et al. (2003) who also agreed that top management support and commitment should continue from the beginning to the full implementation of the ERP system. The study also found out that well-articulated business vision and goals were key enablers in achieving successful implementation. Previous studies done on the critical success factors in ERP implementation, emphasize that successful ERP implementation is multi-faceted and should not be taken in isolation (Somers and Nelson,2004;Otieno,2010). The respondents generally agreed with most of the factors concerning their importance in a successful ERP project and therefore, they should all be taken into consideration especially when implementing ERP.

5.3 Conclusion

Vendor support is a complex multi-faceted phenomenon that is very critical for the successful implementation of ERP and in this study it was composed of three variables: vendor training, vendor project management and vendor post implementation support. These factors were individually tested on the impact that they have on successful ERP implementation and the results showed that vendor training and post implementation support were positively and significantly relevant in explaining the influence of successful ERP implementation.

Of the two variables that were significant, vendor training was found to have a higher correlation with successful ERP implementation. This finding is echoed by (Holland and Light, 1999; Huang et al., 2008) who emphasized on the need of quality training to realize the full benefits of

the ERP system. Additionally, diversity of training methods was more preferable in enhancing the user's proficiency and levels of knowledge than using just one training method.

Vendor post implementation support also influenced successful ERP implementation positively. ERP vendors were found to be actively involved in the update and maintenance of the software which contributed to the success of the system. These findings echoed the past researches of (Luminita, 2009; Bingi et al., 1999) who emphasized on the critical nature of the post implementation stage in ensuring the infusion of the software in the organization.

Finally, vendor project management was insignificant in explaining successful ERP implementation and did not correlate with successful ERP implementation. This is attributable to lack of managerial expertise and lack of project management skills among the ERP vendors (Otieno, 2010).

5.4 Recommendations

This study found vendor post implementation support and training to be very critical in ensuring ERP is implemented effectively and it therefore recommends firms implementing ERP to take these two factors very seriously in ensuring successful ERP implementation.

The research further recommends organizations to conduct a post implementation review when the system is up and running to ensure it is error free and working efficiently. Covering the post implementation activities like upgrades, maintenance and training after every upgrade will optimise the performance of the ERP system.

Organizations should further ensure that training is adequately done by ensuring that a thorough understanding of its embedded processes. In many cases user training is only focused on the basic processes of the system which in turn lowers their control on the ERP system. Though the research found project management to be insignificant in explaining successful ERP implementation, organizations implementing ERP should still ensure vendors deliver the projects within the scope, time and budgets to avoid costly upgrades.

5.5 Suggestions for future research

The research was done with a view of the Kenyan manufacturing industry, with manufacturing organizations that had recently implemented ERP being considered for the study. Future research can look at other industries e.g. banking, hotel, food and agricultural industries. Vendor support and successful ERP implementation are concepts that are comprised of a plethora of factors and replicating the same study in other industries will offer invaluable information to the existing body of knowledge.

There may be important contexts of vendor support that were not included in this study. This research focuses on vendor support on three dimensions: project management, ERP post implementation support and vendor training. Future studies can examine other dimensions of ERP vendor support like vendor experience, choosing the right software to give us a more diverse picture of the effectiveness of vendor support in the implementation of ERP projects.

Additionally ERP implementation is a very complex procedure that involves a lot of stakeholders. This study evaluated the impact of vendor support by evaluating the organizations that had recently implemented ERP. Future studies can be done on ERP vendors themselves to find out the challenges they encounter while implementing Kenyan organization.

5.6 Limitations of the research

As with any research effort, this study is subject to several limitations. First, only a single respondent for each organization in the survey was asked to respond to complex issues in ERP implementation. But no one in an organization can thoroughly measure both the level of factors that influence successful ERP implementation and that of vendor support. This is because individual perception and opinion may not represent the collective organizational perception.

REFERENCES

- Akkermans, H., & van Helden, K. (2002). Vicious and virtuous cycles in ERP implementation: a case study of interrelations between critical success factors. *European Journal of Information Systems*, 11(1), 35-46.
- Albadri, F. A., & Abdallah, S. (2009). ERP training and evaluation: ERP life-cycle approach to end-users' characterization and competency building in the context of an oil & gas company. *Ibima business review*, 3(2).
- Aladwani, A. M. (2001). Change management strategies for successful ERP implementation. *Business Process management journal*, 7(3), 266-275.
- Al-Mashari, M., Al-Mudimigh, A., & Zairi, M. (2003). Enterprise resource planning: A taxonomy of critical factors. *European journal of operational research*, 146(2), 352-364.
- Al-Mashari, M., Ghani, S. K., & Al-Rashid, W. (2006). A study of the Critical Success Factors of ERP implementation in developing countries. *International Journal of Internet and Enterprise Management*, 4(1), 68-95.
- Appuswamy, R. (2000). Implementation issues in ERP. In *published in the 1st International Conference on Systems Thinking in Management*.
- Ara, A., & Al-Mudimigh, A. S. (2011). The Role and Impact of Project Management in ERP project implementation life cycle. *Global Journal of Computer Science and Technology*, 11(5).
- Babbie, E. (1989), *The Practice of Social Research*, 5th ed., Wadsworth/Thompson, Belmont, CA.
- Bancroft, N., Seip, H. and Sprengel, A. (1998), *Implementing SAP R/3: How to Introduce a Large System into a Large Organisation*, Manning Publications Co., Greenwich, CT.
- Bigsten, A., Kimuyu, P., & Söderbom, M. (2010). "Chapter 10: The Manufacturing Sector," forthcoming. In C. Adam, C., P. Collier and N. Ndung'u, *Kenya: Policies for Prosperity*. Oxford University Press and Central Bank of Kenya.
- Bingi, P., Sharma, M. K., & Godla, J. K. (1999). Critical issues affecting an ERP implementation. *IS Management*, 16(3), 7-14.
- Bradley, J., & Lee, C. C. (2007). ERP training and user satisfaction: A case study. *International Journal of Enterprise Information Systems (IJEIS)*, 3(4), 33-50.

- Caldas, M. and Wood, T. (2000) How consultants can help organizations survive the ERP frenzy, http://www.gv.br/prof_alunos/thomaz/ingles/paper5.htm, accessed December 1999.
- Chepkoech, S., & Noor, I. (2014). Effects of enterprise resource planning implementation on supply chain performance in manufacturing sector in Kenya: A case of Unilever Limited. *International Journal of Social Sciences and Entrepreneurship*, 1(13), 475-494.
- Christopher Kutswa, E. (2011). *Challenges of implementing enterprise resource planning strategy at the Kenya Electricity Generating Company* (Doctoral dissertation, University of Nairobi, Kenya).
- Cooper, R.D., & Schindler, P.S. (2003). *Business Research Methods* 8th ed, New-York: McGraw-Hill/Irwin.
- Correa, P. R., & Cruz, R. (2005). Success of ERP systems in Chile: an empirical study. In *Proceedings of the Eleventh Americas Conference on Information Systems (AMCIS2005), Omaha, NE, 11-14 August* (pp. 757-68).
- Cox III, J. F., & Spencer, M. S. (1997). *The constraints management handbook*. CRC Press
- Crossan, M. M., Lane, H. W., & White, R. E. (1999). An organizational learning framework: From intuition to institution. *Academy of management review*, 24(3), 522-537.
- Cummings, T. G., & Worley, C. G. (2005). *Organizational development and change*. Cincinnati. OH: South-Western Publishing.
- Davenport.T.H.(1996). Holistic Management of Mega-Package Change: the Case of SAP. *Americas Conference on Information Systems*, August 16±18, Phoenix, AZ,
- Dettmer, H. W. (1997). *Goldratt's theory of constraints: a systems approach to continuous improvement*. ASQ Quality Press
- Dezdar, S., & Ainin, S. (2010). ERP implementation success in Iran: Examining the role of system environment factors. *World Academy of Science, Engineering and Technology*, 66, 449-455.
- Donovan, M. (2001). Successful ERP implementation the first time. Retrieved July, 25, 2001.
- Esteves, J., Pastor-Collado, J., & Casanovas, J. (2002). Measuring sustained management support in ERP implementation projects: a GQM approach. *AMCIS 2002 Proceedings*, 190.

- Ezekiel, M., & Fox, K. A. (1959). *Methods of correlation and regression analysis: Linear and curvilinear*.
- Fardipour, F. (2011). Factors that influence the quality of vendor support service in enterprise resource planning implementation and use.
- Fayez ,Albadri. A. & Salam, Abdallah. (2009). ERP training and evaluation: ERP life-cycle approach to end-users' characterization and competency building in the context of an oil & gas company. *Ibima business review*, 3(2).
- Finney, S., & Corbett, M. (2007). ERP implementation: a compilation and analysis of critical success factors. *Business Process Management Journal*,13(3), 329-347.
- Fiol, C. M., & Lyles, M. A. (1985). Organizational learning. *Academy of management review*, 10(4), 803-813.
- Fitz-Gerald, L., & Carroll, J. (2003). The role of governance in ERP system implementation. In *Proceedings of the 14th Australasian conference on information systems*.
- Fui-Hoon Nah, F., Lee-Shang Lau, J., & Kuang, J. (2001). Critical factors for successful implementation of enterprise systems. *Business process management journal*, 7(3), 285-296.
- Gargeya, V. B., & Brady, C. (2005). Success and failure factors of adopting SAP in ERP system implementation. *Business Process Management Journal*, 11(5), 501-516.
- Gelinas, U., Sutton, S., & Hunton, J. (2005). *Acquiring, Developing and Implementing Accounting Information System*, 6th Ed.: Thomson South-Western Education College, Cincinnati.
- Goldratt, E. M. (1990). *Theory of constraints*. Croton-on-Hudson: North River.
- Gupta, A. (2000). Enterprise resource planning: the emerging organizational value systems. *Industrial Management & Data Systems*, 100(3), 114-118.
- Hair, J. F., Anderson, R. E., & Tatham, R. L. (62). Black.WC, 1998, *Multivariate Data Analysis*. Prentice-Hall International, Inc, New Jersey.
- Heeks, R., & Kenny, C. J. (2002). The Economics of ICTs and Global Inequality: Convergence or Divergence for Developing Countries. *Industrial Management & Data Systems*, 102(1), 35-38.
- Hein. C.R. (2008). ERP Implementation: A multi-stakeholder analysis of critical success factors. *WICT proceedings*, 1-6.

- Hillman Willis, T., & Hillary Willis-Brown, A. (2002). Extending the value of ERP.
- Hofstede, G. H. 2001. *Culture and Consequences: International Differences in Work*
- Helo, P., Anussornnitisarn, P., & Phusavat, K. (2008). Expectation and reality in ERP implementation: consultant and solution provider perspective. *Industrial Management & Data Systems*, 108(8), 1045-1059.
- Holland, C. P., & Light, B. (1999). A critical success factors model for ERP implementation. *IEEE software*, 16(3), 30.
- Huang, S. M., Chang, I. C., Li, S. H., & Lin, M. T. (2004). Assessing risk in ERP projects: identify and prioritize the factors. *Industrial management & data systems*, 104(8), 681-688.
- Huber, M. J. (1999). JAM: A BDI-theoretic mobile agent architecture. In Proceedings of the *Third International Conference on Autonomous Agents (Agents'99)*, pages 236–243, Seattle.
- Idris, M. M. (2014). *Challenges of Enterprise Resource Planning (ERP) strategy implementation by firms in Kenya* (Doctoral dissertation, University of Nairobi).
- Ifinedo, P., & Nahar, N. (2009). Interactions between contingency, organizational IT factors, and ERP success. *Industrial Management & Data Systems*, 109(1), 118-137.
- Ioannou, G., & Papadoyiannis, C. (2004). Theory of constraints-based methodology for effective ERP implementations. *International Journal of Production Research*, 42(23), 4927-4954.
- Luliana Dorobat,, & FloreaNastase,. (2012). Training issues in ERP Implementations *.Accounting and Management Information Systems*, 11(4), 621.
- Koch, C. (2006) :The pros and cons of automating a company's functional areas. *The Enterprise Resource Planning Research center*
- Koh, S. C. L., Gunasekaran, A., & Rajkumar, D. (2008). ERP II: The involvement, benefits and impediments of collaborative information sharing. *International Journal of Production Economics*, 113(1), 245-268.
- Kumar, V., Maheshwari, B., & Kumar, U. (2002). ERP systems implementation: Best practices in Canadian government organizations. *Government Information Quarterly*, 19(2), 147-172.

- Kumar, V., Maheshwari, B., & Kumar, U. (2003). An investigation of critical management issues in ERP implementation: empirical evidence from Canadian organizations. *Technovation*, 23(10), 793-807.
- Laughlin, Stephen P. (1999): "An ERP game plan." *Journal of business strategy* 20.1 32-37.
- Laukkanen, S., Sarpola, S., & Hallikainen, P. (2007). Enterprise size matters: objectives and constraints of ERP adoption. *Journal of enterprise information management*, 20(3)
- Leopoldo.C. E., & Otieno, J. O. (2005). Critical Success Factors of ERP Implementation.
- Louis Raymond, Sylvestre Uwizeyemungu, (2007) "A profile of ERP adoption in manufacturing SMEs", *Journal of Enterprise Information Management*, Vol. 20 Iss: 4, pp.487 – 502
- Luminita Hurbean,. (2009). Issues with implementing ERP in the public administration.
- Maina, G. S. (2009). The challenges of implementation of enterprise resource planning in education sector in Kenya: case of KCA university (Doctoral dissertation).
- Mandal, P., & Gunasekaran, A. (2003). Issues in implementing ERP: A case study. *European Journal of Operational Research*, 146(2), 274-283.
- Marco Marabelli,, & Sue Newell,. (2009). The Post Implementation Phase of a Large-Scale Integrative IT Project. *Enterprise Information Systems and Implementing IT Infrastructures: Challenges and Issues: Challenges and Issues*, 180.
- Mishra, D., & Mishra, A. (2011). Complex software project development: agile methods adoption. *Journal of Software Maintenance and Evolution: Research and Practice*, 23(8), 549-564.
- Momanyi, I. M. (2014). *Enterprise resource planning system adoption and organizational performance of manufacturing firms in Kenya* (Doctoral dissertation, University of Nairobi).
- Moussa Nejib, B. (2013). Determinants of Post Implementation Success of ERP In Tunisian Companies: An Empirical Study of The Moderating Role of The Technical Fit. *International Review of Management and Business Research*, 2(4), 1101.
- Nah Fui-Hoon, F., Lee-Shang Lau, J., & Kuang, J. (2001). Critical factors for successful implementation of enterprise systems. *Business process management journal*, 7(3), 285-296.

- Ndubisi, N. O., Gupta, O. K., & Massoud, S. (2003). Organizational learning and vendor support quality by the usage of application software packages: A study of Asian entrepreneurs. *Journal of Systems Science and Systems Engineering*, 12(3), 314-331.
- Nejib, B. M. (2013). Determinants of Post Implementation Success of ERP In Tunisian Companies: An Empirical Study of The Moderating Role of The Technical Fit. *International Review of Management and Business Research*, 2(4), 1101.
- Ng, CSP & Gable, GG 2010, 'Maintaining ERP Packaged Software – A revelatory Case Study', *Journal of Information Technology*, vol. 25, no. 1, pp. 65–90.
- Nicolaou, A. I. (2004, July). ERP systems implementation: drivers of post-implementation success. In *Decision Support in an Uncertain and Complex World: The IFIP TC8/WG8. 3 International Conference* (pp. 589-597).
- Nzuki, D. M., & Okelo-Odongo, W. (2015). Adoption of Enterprise Resource Planning Systems in Kenya: A Case of Selected Manufacturing Firms in Nairobi Metropolitan.
- Otieno, J., O., (2010), Enterprise Resource Planning Systems Implementation and Upgrade (A Kenyan Study), *School of Engineering and Information Sciences Middlesex University*
- Parr, A. N., & Shanks, G. (2000, January). A taxonomy of ERP implementation approaches. In *System Sciences, 2000. Proceedings of the 33rd Annual Hawaii International Conference on* (pp. 10-pp). IEEE.
- Pawlowski, S. (1999). Constraints and flexibility in enterprise systems: A dialectic of system and job. *AMCIS 1999 Proceedings*, 273
- Peng, G. C., & Nunes, M. B. (2010, January). Interrelated barriers and risks affecting ERP post-implementation in China. In *System Sciences (HICSS), 2010 43rd Hawaii International Conference on* (pp. 1-10). IEEE.
- Pentland, B.T. (1995), “Grammatical models of organizational processes”, *Organization Science*, Vol. 6 No. 5, pp. 541-56.
- Perera, H. and Costa, W. (2008). Analytic Hierarchy Process for Selection of Erp Software for Manufacturing Companies. *Vision: The Journal of Business Perspective*.
- Rasiah, R., & Gachino, G. (2005). Are foreign firms more productive and export-and technology-intensive than local firms in Kenyan manufacturing?. *Oxford Development Studies*, 33(2), 211-227. *Related Values*. Thousand Oaks, CA: Sage publication.

- Robey, D., Ross, J. W., & Boudreau, M. C. (2002). Learning to implement enterprise systems: An exploratory study of the dialectics of change. *Journal of Management Information Systems*, 19(1), 17-46.
- Rosario, J. G. (2000, May 17). On the leading edge: Critical success factors in ERP implementation projects. *Business World (Philippines)*, 27. Perceptions of Critical Success Factors 19
- Ross, J. W., & Vitale, M. R. (2000). The ERP revolution: surviving vs. thriving. *Information systems frontiers*, 2(2), 233-241.
- Sedera, D., & Gable, G. (2004). A factor and structural equation analysis of the enterprise systems success measurement model. *ICIS 2004 Proceedings*, 36.
- Sekaran, U. (2005) *Research Methods for Business: A Skill Building Approach*, 4th Edn, John Wiley & Sons, India.
- Soh, C., Kien, S. S., & Tay-Yap, J. (2000). Enterprise resource planning: cultural fits and misfits: is ERP a universal solution. *Communications of the ACM*, 43(4), 47-51.
- Somers, T. M., & Nelson, K. (2001, January). The impact of critical success factors across the stages of enterprise resource planning implementations. In *System Sciences, 2001. Proceedings of the 34th Annual Hawaii International Conference on* (pp. 10-pp). IEEE.
- Somers, T. M., & Nelson, K. G. (2003). The impact of strategy and integration mechanisms on enterprise system value: Empirical evidence from manufacturing firms. *European Journal of Operational Research*, 146(2), 315-338.
- Somers, T. M., & Nelson, K. G. (2004). A taxonomy of players and activities across the ERP project life cycle. *Information & Management*, 41(3), 257-278.
- Somers, T. M., Nelson, K., & Ragowsky, A. (2000). Enterprise Resource Plannin (ERP) for the Next Millenium: Development of an Integrative Framework and Implications for Research. *AMCIS 2000 Proceedings*, 211.
- Sumner, M. (1999). Risk factors in enterprise-wide/ERP projects. *Journal of information technology*, 15(4), 317-327.
- Sumner, M., & Hamilton, J. (2005). The turnaround ERP project: strategies and issues. *AMCIS 2005 Proceedings*, 165.

- Tarhini, A., Ammar, H., & Tarhini, T. (2015). Analysis of the critical success factors for enterprise resource planning implementation from stakeholders' perspective: A systematic review. *International Business Research*, 8(4), 25.
- Tsai, Wen-Hsien, et al. (2005): "Identification of critical failure factors in the implementation of enterpriseresource planning (ERP) system in Taiwan's industries." *International Journal of Management and Enterprise Development* 2.2 219-239.
- Teltumbde, Anand (2000). "A framework for evaluating ERP projects." *International journal of production research* 38.17:4507-4520.
- Trimmer, K. J., "Kitty" Pumphrey, L. D., & Wiggins, C. (2002). ERP implementation in rural health care. *Journal of Management in Medicine*,16(2/3), 113-132.
- Tsai, W. H., & Hung, S. J. (2008). E-commerce implementation: an empirical study of the performance of enterprise resource planning systems using the organizational learning model. *International Journal of Management*, 25(2), 348.
- Umble, E. J., Haft, R. R., & Umble, M. M. (2003). Enterprise resource planning: Implementation procedures and critical success factors. *European journal of operational research*, 146(2), 241-257. *Values*. Beverly Hills, CA: Sage Publications.
- Wang, Eric TG, and Jessica HF Chen (2006):. "Effects of internal support and consultant quality on the consulting process and ERP system quality." *Decision Support Systems* 42.2 1029-1041.
- Welti, N. (1999). *Successful SAP R/3 implementation: Practical management of ERP projects*. Addison-Wesley Longman Publishing Co., Inc.
- Wortmann, J. C. (1998). *Evolution of ERP systems* (pp. 11-23). Springer US.
- Zeitz, W. A. (1996). SAP R/3: Dream or nightmare?: Don't jump on the SAP bandwagon. *Computerworld*, 30(5), 101-103
- Zhang, L., Lee, M. K., Zhang, Z., & Banerjee, P. (2003, January). Critical success factors of enterprise resource planning systems implementation success in China. In *System Sciences, 2003. Proceedings of the 36th Annual Hawaii International Conference on* (pp. 10-pp). IEEE.

- Zhenyu Huang, (2007). A comprehensive analysis of US counties'e-Government portals: development status and functionalities. *European Journal of Information Systems*, 16(2), 149-164.
- Zhenyu,Huang, and Prashant Palvia. (2001) "ERP implementation issues in advanced and developing countries." *Business Process Management Journal* 7.3: 276-284.
- Huang, S. M., Hsieh, P. G., Tsao, H. H., & Hsu, P. Y. (2008). A structural study of internal control for ERP system environments: a perspective from the Sarbanes-Oxley Act. *International Journal of Management and Enterprise Development*, 5(1), 102-121.
- Huang, S. M., Chang, I. C., Li, S. H., & Lin, M. T. (2004). Assessing risk in ERP projects: identify and prioritize the factors. *Industrial management & data systems*, 104(8), 681-688.
- Huber, M. J. (1999). JAM: A BDI-theoretic mobile agent architecture. In Proceedings of the *Third International Conference on Autonomous Agents (Agents'99)*, pages 236–243, Seattle.
- Ifinedo, P., & Nahar, N. (2009). Interactions between contingency, organizational IT factors, and ERP success. *Industrial Management & Data Systems*, 109(1), 118-137.
- Jones, Capers. (1996), "Patterns of Software Systems Failures and Success", International Thompson Computer Press. 40(203), 3987-4210.
- Ioannou*, G., & Papadoyiannis, C. (2004). Theory of constraints-based methodology for effective ERP implementations. *International Journal of Production Research*,
- Kim, Y., Lee, Z., & Gosain, S. (2005). Impediments to successful ERP implementation process. *Business process management journal*, 11(2), 158-170.
- Koh, S. C. L., Gunasekaran, A., & Rajkumar, D. (2008). ERP II: The involvement, benefits and impediments of collaborative information sharing.*International Journal of Production Economics*, 113(1), 245-268.
- Kumar, V., Maheshwari, B., & Kumar, U. (2003). An investigation of critical management issues in ERP implementation: emperical evidence from Canadian organizations. *Technovation*, 23(10), 793-807.
- Kumar, V., Maheshwari, B., & Kumar, U. (2002). ERP systems implementation: Best practices in Canadian government organizations.*Government Information Quarterly*, 19(2), 147-172.
- Laughlin, Stephen P. (1999): "An ERP game plan." *Journal of business strategy* 20.1 32-37.
- Louis Raymond, Sylvestre Uwizeyemungu, (2007) "A profile of ERP adoption in manufacturing

- SMEs", *Journal of Enterprise Information Management*, Vol. 20 Iss: 4, pp.487 – 502
- Loh, T. C., & Koh*, S. C. L. (2004). Critical elements for a successful enterprise resource planning implementation in small-and medium-sized enterprises. *International journal of production research*, 42(17), 3433-3455
- Luminita Hurbean (2009). Issues with implementing ERP vendors in the public administration.
- Mandal,P., & Gunasekaran A. (2003).Issues in implementing ERP. A case study (*European Journal of operational research*,14)(2),274-283.
- Makori Edna Kwamboka (2011) applications and supply chain performance of large scale manufacturing firms in Nairobi.
- Maryam Mohammed Idris (2014) challenges of ERP strategy implementation by Firms in Kenya.
- Markus, M. L., Axline, S., Petrie, D., & Tanis, S. C. (2000). Learning from adopters' experiences with ERP: problems encountered and success achieved. *Journal of information technology*, 15(4), 245-265.
- Marketos, Paul. (2010) "Intelligent use of ERP can help mitigate internal fraud." *IT News Africa.com*, February16th.
- Mishra, D., & Mishra, A. (2011). Complex software project development: agile methods adoption. *Journal of Software Maintenance and Evolution: Research and Practice*, 23(8), 549-564.
- Momanyi, I. M. (2014). *Enterprise resource planning system adoption and organizational performance of manufacturing firms in Kenya* (Doctoral dissertation, University of Nairobi).
- Mugenda, O.M., & Mugenda, A.G. (2003), *Research Methods: Qualitative and Qualitative Approaches. African Centre for Technology Studies*, Nairobi,Kenya.
- Nejib, B. M. (2013). Determinants of Post Implementation Success of ERP In Tunisian Companies: An Empirical Study of The Moderating Role of The Technical Fit. *International Review of Management and Business Research*,2(4), 1101.
- Nicolaou, A. I. (2004, July). ERP systems implementation: drivers of post-implementation success. In *Decision Support in an Uncertain and Complex World: The IFIP TC8/WG8. 3 International Conference* (pp. 589-597).
- Ng, CSP & Gable, GG 2010, 'Maintaining ERP Packaged Software – A revelatory Case Study', *Journal of Information Technology*, vol. 25, no. 1, pp. 65–90.

- Ndubisi, N. O., Gupta, O. K., & Ndubisi, G. C. (2005). The moguls' model of computing: Integrating the moderating impact of users' persona into the technology acceptance model. *Journal of Global Information Technology Management*, 8(1), 27-47.
- Otieno, J., O.,(2010), Enterprise Resource Planning Systems Implementation and Upgrade(A KenyanStudy), *School of Engineering and Information Sciences Middlesex University*
- Parr, A. N., & Shanks, G. (2000, January). A taxonomy of ERP implementation approaches. In *System Sciences, 2000. Proceedings of the 33rd Annual Hawaii International Conference on* (pp. 10-pp). IEEE.
- Pawlowski, S. and Boudreau, M.C. (1999), “Constraints and flexibility in enterprise systems: a dialectic of system and job”, *Americas Conference on Information Systems*, 13-15 August, Milwaukee, WI.
- Perera, H. and Costa, W. (2008). Analytic Hierarchy Process for Selection of Erp Software for Manufacturing Companies. *Vision: The Journal of Business Perspective*.
- Rasiah, R., & Gachino, G. (2005). Are foreign firms more productive and export-and technology-intensive than local firms in Kenyan manufacturing?.*Oxford Development Studies*, 33(2), 211-227.
- Rashid, M. A., Hossain, L., & Patrick, J. D. (2002). The evolution of ERP systems: *A historical perspective*.
- Robey, D., Ross, J. W., & Boudreau, M. C. (2002). Learning to implement enterprise systems: An exploratory study of the dialectics of change. *Journal of Management Information Systems*, 19(1), 17-46.
- Rosario, J. G. (2000, May 17). On the leading edge: Critical success factors in ERP implementation projects. *Business World (Philippines)*, 27. Perceptions of Critical Success Factors 19
- Ross, J. W., & Vitale, M. R. (2000). The ERP revolution: surviving vs. thriving. *Information systems frontiers*, 2(2), 233-241.
- Sedera, D., & Gable, G. (2004). A factor and structural equation analysis of the enterprise systems success measurement model. *ICIS 2004 Proceedings*, 36.
- Sekaran, U. (2005) *Research Methods for Business: A Skill Building Approach*, 4th Edn, John Wiley & Sons, India.
- Soh, C., Kien, S. S., & Tay-Yap, J. (2000). Enterprise resource planning: cultural fits and misfits: is

- ERP a universal solution. *Communications of the ACM*, 43(4), 47-51.
- Somers, T. M., & Nelson, K. (2001, January). The impact of critical success factors across the stages of enterprise resource planning implementations. In *System Sciences, 2001. Proceedings of the 34th Annual Hawaii International Conference on* (pp. 10-pp). IEEE.
- Sumner, Mary (2000):. "Risk factors in enterprise-wide/ERP projects." *Journal of information technology* 15.4 317-327.
- Sumner, Mary, and John Hamilton(2005):. "The turnaround ERP project: strategies and issues." *AMCIS 2005 Proceedings* 165.
- Tarhini, A., Ammar, H., & Tarhini, T. (2015). Analysis of the critical success factors for enterprise resource planning implementation from stakeholders' perspective: A systematic review. *International Business Research*, 8(4), 25.
- Tsai, Wen-Hsien, et al. (2005): "Identification of critical failure factors in the implementation of enterpriseresource planning (ERP) system in Taiwan's industries." *International Journal of Management and Enterprise Development* 2.2 219-239.
- Teltumbde, Anand (2000). "A framework for evaluating ERP projects." *International journal of production research* 38.17:4507-4520.
- Trimmer, K. J., "Kitty" Pumphrey, L. D., & Wiggins, C. (2002). ERP implementation in rural health care. *Journal of Management in Medicine*,16(2/3), 113-132.
- Umble, E. J., Haft, R. R., & Umble, M. M. (2003). Enterprise resource planning: Implementation procedures and critical success factors. *European journal of operational research*, 146(2), 241-257.
- Verville, Jacques, Christine Bernadas, and AlannahHalingten. (2005): Ten critical factors for successful acquisitions." *Journal of Enterprise Information Management* 18.6665-677.
- Wang, Eric TG, and Jessica HF Chen (2006):. "Effects of internal support and consultant quality on the consulting process and ERP system quality." *Decision Support Systems* 42.2 1029-1041.
- Zeitz, W. A. (1996). SAP R/3: Dream or nightmare?: Don't jump on the SAP bandwagon. *Computerworld*, 30(5), 101-103

APPENDIX 1

QUESTIONNAIRE

Section A: Firm profile

1. Kindly indicate your Job Title.....

2. When was the ERP solution implemented in your organization?

1 year ago[]

2 years ago.....[]

3 years ago.....[]

4. How many employees does this firm have? (Tick range applicable)

Less than 50 people [] 50-100 people [] 100-200 people [] above 200 people []

5. How many years has your organization been in operation? (Tick range applicable)

0-5 years [] 6-10 years [] 11-15 years [] More than 15 years []

6. Ownership of the organization

Foreign [] Local [] Both []

7. Kindly tick which enterprise resource planning (ERP) system (s) is in use in the

Organization?

Sage ERP 300.....[]

SAP..... []

Oracle.....[]

Micro Soft Dynamics AX 2012... []

JD Edwards.....[]

Others, kindly specify.....

.....

SECTION B: Vendor support and Successful ERP implementation.

1. Please indicate with a tick the extent to which you agree with the following statements concerning the vendor project management and the successful ERP implementation in your organization.

1-Strongly agree; 2- agree; 3-Somewhat Agree; 4- disagree; 5-Strongly disagree

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| The vendor displayed professionalism and quality service during the project implementation | | | | | |
| The vendor was knowledgeable and highly skilled in the software that he was implementing | | | | | |
| The ERP project met its cost estimates and milestones within the planned time frame | | | | | |
| The vendors were good and effective communicators which was a key factor to successful ERP implementation | | | | | |
| The Vendor allocated resources appropriately during the implementation which contributed to successful implementation of the ERP. | | | | | |
| The ERP vendor communicated Significant changes to the management and other parties involved | | | | | |
| The vendor project managers were organized during the implementation process | | | | | |
| Conflicts that arose during the project were handled quickly and efficiently | | | | | |
| The staff were well prepared for the change by the project vendors | | | | | |
| Others,Please Explain | | | | | |

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

(1.a) Was the project completed on time

Yes []

No []

If the project implementation was not completed in time, for how long did it delay.

More than 3 months over schedule()

More than 1 month over schedule()

Less than 1 month over schedule()

Was the delay/timely completion influenced by the ERP vendor? Please explain.....

.....

.....

(1b) Did the project exceed the planned budget

Yes []

No []

If the actual project budget exceeded the planned budget, by what estimate did it exceed?

More than 10% over planned budget()

More than 5% over planned budget()

Less than 5% over planned budget()

2. Please indicate with a tick the extent to which you agree with the following statements concerning the influence of ERP vendor training and successful ERP implementation.

1.Strongly agree,2.Agree,3.Somewhat Agree,4.Disagree,5.Strongly disagree

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| The ERP training was given adequate importance by the ERP vendor. | | | | | |
| Continual training during the implementation was more effective than training for a limited period | | | | | |
| Technical knowledge and skills were acquired during the training which contributed to successful ERP implementation | | | | | |
| End user training by the ERP vendor was a key contributing factor towards ERP system success. | | | | | |
| Many training methods were more effective than one training method. | | | | | |
| The training offered achieved the specified objectives | | | | | |
| Training and education enhanced the user's proficiency and level of knowledge | | | | | |
| Others(Please Explain) | | | | | |

2. Please indicate with a tick the extent you agree with the following statements concerning the ERP post implementation support and successful ERP implementation.

1.Strongly agree,2.Agree,3.Somewhat Agree,4.Disagree,5.Strongly disagree

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| The vendor was involved in the post implementation stage which contributed to successful ERP implementation | | | | | |
| The ERP system implemented is compatible with the organizational business processes | | | | | |
| A post implementation review was done to determine the effectiveness of the software | | | | | |
| The ERP system has fulfilled the objectives that were laid out before the adoption | | | | | |
| The decision on whether to upgrade is mainly made by the ICT management in the organization | | | | | |
| The vendor regularly trains the users after every upgrade made | | | | | |
| The ERP vendor updates the software regularly | | | | | |
| The software vendor investigates errors and defects on the software in a timely manner | | | | | |
| You are satisfied with the quality of post implementation support offered by the ERP vendor | | | | | |

SECTION C:Successful ERP Implementation in Manufacturing Organizations

1. Please indicate with a tick the extent you agree with the following statements concerning successful ERP implementation in my organization.

1.Strongly agree,2.Agree,3.Somewhat Agree,4.Disagree,5.Strongly disagree

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Top management support contributed to successful implementation of ERP | | | | | |
| Effective team work was imperative for the success of the project | | | | | |
| Well articulated business vision and goals was a key factor in achieving successful implementation of the ERP project | | | | | |
| The existing business processes matched efficiently with the ERP system which reduced the need for customization | | | | | |
| Business process re-engineering aided the successful implementation of the ERP | | | | | |
| Monitoring and evaluation of the project was a key contributing factor to the success of the project | | | | | |
| During the implementation there was effective project and scope management | | | | | |
| The ERP vendors and external consultants reliability contributed to the successful implementation of ERP | | | | | |
| The system was compatible with the organizational processes which aided its successful implementation | | | | | |
| The ERP system was highly customized to fit the organizational legacies which led to its successful implementation | | | | | |

APPENDIX 2

LIST OF MANUFACTURING COMPANIES

1. Kenya United Steel and Co.Ltd
2. Premier Flour Mills

3. Bamburi Cement
4. Cetco Kenya
5. Soliton Telmec Limited
6. Kentainers Limited
7. Dodhia packaging
8. Twiga Stationers
9. Kemsas Kenya Ltd
10. Bidco Kenya Ltd
11. Doshi & Co. Hard ware
12. Desbro Kenya Ltd
13. Murphy Chemicals E.A. Ltd
14. Pentagon Agencies
15. Bobmil Industries Ltd
16. Image Apparels Ltd
17. United Bags Manufactures
18. Beta Health Care International Limited
19. Cosmos Limited
20. Super Foam Lt
21. Crown paints Kenya
22. Manji Biscuits
23. Lyonns Maid Kenya
24. Bowip Agencies Ltd
25. Kenafric Kenya Limited
26. Tetrapak Kenya Limited
27. Kenblest Limited
28. Pembe Flour Mills
29. Premier Flour Mills
30. Promasidor Kenya Ltd
31. Basco Products(K) Limited
32. Galaxy Paints & Coating Co.Ltd
33. Osho Chemicals Industries Ltd
34. Napro Industries
35. Paper bags Limited
36. Orbit Engineering Ltd
37. KAM Pharmacy Limited
38. Tetra Pak ltd
39. Poly Flex Industries Ltd
40. Complast Industries Limited

