ENTERPRISE RESOURCE PLANNING SYSTEM AND PERFORMANCE OF STATE CORPORATIONS IN KENYA

BY

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SEPTEMBER, 2017
DECLARATION

I hereby declare that this research project is my original work and has not been submitted for an award of degree in any other university.

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Juma Victor
D53/CTY/PT/27984/2014

This research project has been submitted with my approval as the University Supervisor.

Signature: ........................................... Date: ..............................................

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DEDICATION

I wish to dedicate this project to my family. What I am today, and the small steps that I have taken in my life, it is all because of them. They have been a profound influence towards my intellectual, professional and personal development. My Dad Nichanor Juma, my Mum Janet Juma, my sisters Jane and Loice, brother Walter not forgetting young Steincliff Juma (Junior). Whereas I struggled to maintain balance at every step of my life, their unconditional love and support made me handle life’s challenges with a greater resilience. Thank you for being there with me. Special credit goes to my parents Mr. & Mrs Juma, for their visionary thinking and for serving as an inspiration at every step of my life. They have always encouraged and given me a reason to go ahead and never give up.

My heart is sincerely grateful for your support. God bless you and Thank you for all your love, support and guidance.
ACN KNOWLEDGEMENT

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I extend my deepest gratitude to the management and staff of the selected state corporations who helped me to administer questionnaires, and to all the business system users who patiently bore the displeasures of completing the questionnaires. The moral support offered by family members who went a long way in sustaining my enthusiasm in this work.

I finally give thanks to the almighty God for granting me great guidance, energy, wisdom and academic intellect which enabled me to accomplish this work.
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<tr>
<td>ADC</td>
<td>Agricultural Development Authority</td>
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<tr>
<td>AIS</td>
<td>Accounting Information Systems</td>
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<td>ANOVA</td>
<td>Analysis of Variance</td>
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<td>BSC</td>
<td>Balanced Score Card</td>
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<td>CEO</td>
<td>Chief Executive Officer</td>
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<td>CT</td>
<td>Contingency Theory</td>
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<td>DAC</td>
<td>Development Assistance Committee</td>
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<td>ERP</td>
<td>Enterprise Resource Planning</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>HRM</td>
<td>Human Resource Management</td>
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<tr>
<td>ICT</td>
<td>Information communication and Technology</td>
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<td>IS</td>
<td>Information Systems</td>
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<td>ISO</td>
<td>International Standard Organization</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>MRP</td>
<td>Material Requirement Planning</td>
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<tr>
<td>OECD</td>
<td>Organization for Economic Cooperation and Development</td>
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<td>SPSS</td>
<td>Statistical Package for Social Sciences</td>
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<td>ST</td>
<td>Stakeholder Theory</td>
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## OPERATIONAL DEFINITION OF TERMS

<table>
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<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td><strong>Enterprise Resource Planning</strong></td>
<td>Process by which a company (often a manufacturer) manages and integrates the important parts of its business. An ERP management information system integrates areas such as planning, purchasing, inventory, sales, marketing, finance and human resources.</td>
</tr>
<tr>
<td><strong>Organizational Performance</strong></td>
<td>Comprises the actual output or results of an organization as measured against its intended outputs (or goals and objectives)</td>
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<tr>
<td><strong>State Corporation</strong></td>
<td>Legal entity that is created by the government in order to partake in commercial activities on the government’s behalf</td>
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<td><strong>Financial Integration</strong></td>
<td>Phenomenon in which financial markets in neighboring, regional and/or global economies are closely linked together</td>
</tr>
<tr>
<td><strong>HRM Integration</strong></td>
<td>The process of combining all the systems to do with managing human resources in a business so that they work effectively together for the best results.</td>
</tr>
<tr>
<td><strong>Procurement Integration</strong></td>
<td>Purchasing process that controls quantity, quality, sourcing and timing to ensure the best possible total cost of ownership.</td>
</tr>
<tr>
<td><strong>ICT Integration</strong></td>
<td>The use of ICT to introduce, reinforces, supplement and extend skill towards organizational performance</td>
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ABSTRACT

Enterprise resource planning (ERP) system has been one of the most popular business management systems, providing benefits of real-time capabilities and seamless communication for business in large organizations. However, not all ERP implementations have been successful. Since ERP implementation affects entire organizations such as process, people, and culture, there are a number of challenges that companies may encounter in implementing ERP systems. The purpose of this study was to investigate effect of enterprise resource planning system on organizational performance in state corporations in Kenya. The study was guided by the following specific objectives: to examine the effects of financial integration, human resource management integration, procurement integration and ICT on organizational performance in state corporations in Kenya. Theories anchoring the study were Contingency theory, stakeholder theory and balanced score card. This study employed a descriptive research design. The target population were three selected state corporations in Kenya namely: Agricultural Development Corporation, Agricultural Finance Corporation and Pest Control Products Board. The targeted respondents were 330 respondents. A census method was used to select 15 managers from four departments (finance, human resource, ICT and procurement) and simple random sampling was used to select the 60 employees from the four departments (finance, human resource, ICT and procurement). The data collection instruments for this study were questionnaires for the employees and interviews for the sectional managers. The study concluded that financial integration systems are critical to the production of quality accounting information on a timely basis and the communication of that information to the decision makers. Proper management of the human capital or resource is the main objective for HR in supporting the organization’s strategic development. Through procurement best practices the state corporation focuses to achieve key performance indicators on different aspects of a procurement system, including cost, quality and timeliness of processes, system productivity and system integrity. The changes to the organization’s operational practices, business system and ICT infrastructure have improved operational processes and efficiency of the company. Consequently, this has reduced operating and transaction costs, increased turnover and enhanced profitability. This study recommended that State corporations in Kenya should support ability and facilitate coping with effectiveness of accounting information system (AIS) (reliability, relevance and timeliness) and performance. Accounting field success need, therefore, to incorporate the competencies associated with learning organization and organization support. The HR functions should be properly and strategically developed in order to enhance the human capital at different levels including hiring of staff, compensation /remuneration, performance reviews, training and development, separation, succession planning among other aspects. Management in State Corporations in Kenya should ensure that there is an appropriate focus on good practice in procurement and that there is a significant procurement procedure in place to ensure compliance with all relevant guideline. The current information and communications technologies should be updated, upgraded and seamless integration both internally and externally should be done to improve the State Corporations operations. The integration of ICT in State Corporations would benefit both, service providers and customers bringing together other stakeholders as well, on a common platform.
CHAPTER ONE: INTRODUCTION

This chapter comprises of the background to the study, statement of the problem, objectives of the study, research questions, significance of the study, scope of the study, limitations of the study and organization of the study.

1.1 Background to the Study

The adoption of Information Communication and Technology (ICT) for business goes beyond simply buying an office computer and connecting it to the internet. It is made more beneficial if it is set up with integrated information systems to support the functional areas of the business. These areas include operations and management of accounting, finances, manufacturing, production, transportation, sales and distribution, human resource, supply chain, customer relationship and e-business. An example of such a system is the Enterprise Resource Planning (ERP) Software (Torach, 2011).

Tadjer (2010) emphasizes that ERP systems are one database, one application and a unified interface across the entire enterprise”. ERP systems offer unique benefits to the organizations implementing them. This they do by improving the decision making process of the organizations through the provision of appropriate and timely information (Hunton et al., 2012). Globalization has necessitated most companies to standardize processes and learn the best practices embedded in ERP systems, which ensure quality and predictability in their global business interests by reducing cycle time from order to delivery (Ross, 2013). With the evolvement of ERP systems, the interest in the impact that these systems have on organizational performance has risen.
1.1.1 Organizational Performance

Organizational performance is the final achievement of an organization and contains; existence of certain targets to be achieved, has a period of time in achieving the targets and the realization of efficiency and effectiveness (Gibson, Mundy & Sink, 2010). On the other hand, organizational performance refers to ability of an enterprise to achieve such objectives as high profit, quality product, large market share, good financial results, and survival at pre-determined time using relevant strategy for action. Organizational performance can also be used to view how an enterprise is doing in terms of level of profit, market share and product quality in relation to other enterprises in the same industry. Consequently, it is a reflection of productivity of members of an enterprise measured in terms of revenue, profit, growth, development and expansion of the organization.

Delaney, Dess and Robinson (2010) assert that organization performance can be evaluated by quality service and products, satisfying customers, market performance, service innovations, and employee that organization performance can be appraised by the following “dimensions of performance: return of investment, margin on sales, capacity utilization, customer satisfaction and product quality”. In the same way, Green et al (2011) identified that return on investment, sales and market growth, and profit are important factors that be measured by organization performance. Improved organizational performance is determined by how an entity strategically trade-off cost (efficiency) and responsiveness at all levels. Incorporating supply chain practices into existing structures has the potential of yielding positive returns for the organization.

Finance always being disregarded in financial decision making since it involves investment and financing in short-term period. Further, also act as a restrain in financial performance, since it does not contribute to return on equity (Rafuse, 2011). A well designed and implemented
financial management is expected to contribute positively to the creation of a firm’s value. Dilemma in financial management is to achieve desired trade-off between liquidity, solvency and profitability. Almajali, Alamro & Al-Soub (2012) argue that financial integration has also been the primary concern of business practitioners in all types of organizations since financial performance has implications to organization’s health and ultimately its survival. High performance reflects management effectiveness and efficiency in making use of company’s resources and this in turn contributes to the country’s economy at large.

According to Tan and Nasurdin (2010), an organization’s approach of HRM practices has an influential effect on organizational performance. HRM practices set the tone and condition of the employer-employee relationship which can encourage the employees to become more innovative. If HRM practices properly realigned, it can play a vital role in contributing to the management of organizational knowledge, and innovation will be realized through the ability to use the knowledge to identify and pursue the opportunity. This postulates that knowledge management effectiveness allowing employees to generate knowledge within their sphere of influence, and extent as of shared knowledge influences the organizational performance (Dobni, 2012).

According to Kakwezi and Nyeko (2010), procurement is the acquisition of goods or services. It entails the steps that are used in the acquisition of goods and services and it is the most significant aspect characterizing an organization’s supply chain as well as the aspect of supply chain management which provides some of the most value-added benefits to the organization. Collaborative public procurement is about achieving value for money for the public sector through partnership working between buying organisations, Centres of Expertise (CoEs) and suppliers. Collaborative procurement draws on expertise across the public sector to leverage
volumes and secure benefits from economies of scale through harnessing combined sector purchasing power (Scottish Government, 2013).

In recent years, organizations has strived for homogeneous and standardized ERP systems that forms the informational backbone of the corporation organizations and seamlessly integrate business processes and information flows throughout the whole supply chain. As a result, information infrastructures of today’s organizations consist of a growing pile of systems that specifically target various aspects of the business, including customer Relationship Management, Enterprise Resource Planning, Supply Chain Management, Business Intelligence, Content Management, Portals, Computer-aided Design, Embedded Systems, and Network and Collaborative systems (Sundtoft, Hald & Mouritsen, 2013).

1.1.2 Enterprise Resource Planning Systems

Enterprise Resource Planning (ERP) is the generic term used for management software that include modules such as production, finance, marketing and human resources and that allow companies to plan their goods and services (Stevenson, 2007). According to Hossein (2004), Enterprise resource planning (ERP) systems integrate internal and external management information across an entire organization, embracing finance/accounting, manufacturing, sales and service, customer relationship management, etc. ERP systems automate this activity with an integrated software application.

Zhao and Fan (2007) suggested that new generation ERP systems should be developed based on the principles of low cost, high quality and efficiency. In the recent years, ERP software has become widely used in almost all sectors such as production, services, finance, transportation and public utilities. The purpose of ERP is to facilitate the flow of information between all
business functions inside the boundaries of the organization and manage the connections to outside stakeholders. This software, used by many enterprises, particularly by multinational corporations, has a critical role in ensuring increased efficiency.

Kumar and Keshan (2009) explains that lacking an ERP solution, firms especially manufacturers, find themselves struggling to compete and grow using applications that are functionally deficient, obsolete, and isolated from other applications and data. According to Asemi and Jazi (2010) even though the price of prewritten software is cheap compared to in-house development, the total cost of implementation could be three to five times the purchase price of the software.

Clemmons and Simon (2011) assert that nowadays human resources management is being renewed in organizations’ and becoming one of the fundamental functions of the project management. HRM has changed from an inactive and problem-solving role to a strategic, focusing on the retention and development of the best human resources. Traditional HR practices consisted of activities such as payroll, hiring activities, records management, reporting and termination activities. Nowadays, HRM takes more of a full service role providing employee support beyond pension planning and career development. With the arrival of ERP systems, HR functions became fully integrated with the operations side of the business (Clemmons & Simon, 2011).

According to Handfield (2013) the capability to consider multiple suppliers in turn provides the purchasing firm with a considerable opportunity for cost reduction through bargaining, and hence reduces the benefits and likelihood of JIT adoption). Handfield’s (2013) also argue that if ERP systems provide reductions in material requirements uncertainty, therefore, they may also
be associated with an increased potential to benefit from the use of B2B marketplaces for
Internet-based procurement.

According to Davenport (2008), Information Technology (IT) and Information Systems (IS)
assume a critical part in business condition. As to developing worldwide rivalry, various cutting
dge data frameworks have been produced. A large portion of these new frameworks are
Enterprise Resource Planning (ERP) frameworks. All the more extensively called endeavor
framework, ERP frameworks, intended to reassure both the useful and operational procedures of
the esteem chain of a firm, are business programming bundles that guarantee the consistent
joining of all the data coursing through the company financial and bookkeeping data, human
asset data, production network data, client data.

The introduction of ERP technology has fundamentally changed the accounting practices either
at the financial reporting and management accounting level or at the auditing techniques and tax
level (Scapens & Jazaeyri, 2003). Spathis and Constantinides (2004) argued that a significant
proportion of ERP adopters have introduced sophisticated accounting techniques, such the ABC
method, financial ratios analysis, budgeting, profit centres and profitability analysis by the
customer. Galani (2010) found that using the ABC method, targeted cost and balanced scorecard
is greater in companies that have implemented an ERP.
1.1.3 Agricultural Development Corporation

Agricultural Development Corporation is a Government Parastatal, which was established in 1965 through an Act of Parliament Cap 346, to facilitate the land transfer programme from European settlers to locals following the country’s independence. It is also a stabilizing factor to assist in maintaining the good quality livestock and continuity of the breeding programs in the affected farms. As per this Act, the functions of the Corporation were redefined to include promotion and execution of agricultural schemes and reconstruction in Kenya by initiating, assisting or expansion of agricultural undertaking ands and enterprises. It is on the basis of this Act that the Corporation runs its operations across the country. ADC received ISO 9001:2008 certification a first among parastatals in the Agricultural sector. To maintain ISO certification, ADC business processes are regularly audited in addition to providing a broad range of agricultural products and services.

Performance of Kenyan State Corporations remains crucial for economic development of the country (Ongeti, 2014). To enhance their performance, the government of Kenya adopted strategic planning on the basis of which performance contracts would be extracted. During strategy implementation, annual work plans are extracted through which performance targets are set, negotiated and contracts signed (GoK, 2013). The occurrences in the external environment could have an impact on the relationship between strategy implementation and organizational performance. However, according to GoK (2013) while output of some state corporations has increased, due to these interventions (creating employment opportunities, enhancing service delivery and even paying better dividends) others have continuously underperformed. This situation has partly been attributed to setting of unattainable targets, lack of sufficient structural as well as financial support and occurrences in the external environment beyond the control of strategy executors.
1.2 Statement of the Problem

ERP systems attempt to integrate all business processes into one enterprise wide solution to enhance data homogeneity and integration of modular applications (Morris & Venkatesh, 2010). To handle challenges encountered by various transactional systems within an organization, a common course of action has been the adoption of Enterprise Resource Planning (ERP) system. The challenge most organizations encounter is in consolidating ERP systems within the organization. Many organizations prefer a system platform that would provide integration for processes throughout the organization’s divisional systems to replace the previous transactional systems.

ADC adopted the ERP system to streamline its support departments’ operations with the eventual goal of efficiency in running its core business of revenue collection. The purpose of the ERP was to modernize the support departments Finance department, Human Resource department and Procurement and Supplies department (ADC, 2017). This adoption has been marked by a mixture of success and challenges. Reports on the adoption, state that customization of the ERP software from the vendors to KRA business operations has been limited. The ERP system has also been very expensive. ERP implementation is considerably also more difficult and politically charged because the organisation is structured in such a way that there are independent support departments, each responsible for their own reports, because they each have different processes, rules, data semantics, authorization hierarchies and decision centres (KRA, 2017).

Numerous researches have been conducted on ERP on organizational performance. Internationally, Poston and Grabski (2011) analysed four financial performance measures before and after implementing ERP systems using univariate tests and their results show that adoption
of ERP leads to efficiency. Hunton et al (2010) also researched on the impact of ERP systems adoption and overall organizational performance using financial ratios and their results fail to indicate a performance improvement for ERP adopters. Locally, Koske (2005) analysed the impact of use of ERP in manufacturing companies in Kenya using a survey of 16 companies and his results show that at the organizational level, ERP has very positive impact on the performance of companies. Therefore, this study sought to investigate effect of enterprise resource planning system on organizational performance in state corporations in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of this study was to investigate effect of enterprise resource planning system on organizational performance in state corporations in Kenya.

1.3.2 Specific Objectives

This study was guided by the following specific research objectives:

i. To examine the effects of financial integration on performance of state corporations in Kenya.

ii. To establish the effects of human resource management integration on performance of state corporations in Kenya.

iii. To determine the effects of procurement integration on performance of state corporations in Kenya.

iv. To investigate the effects of ICT integration on performance of state corporations in Kenya.
1.4 Research Questions

This study sought answers to the following research questions:

i. What are the effects of financial integration on performance of state corporations in Kenya?

ii. What are the effects of human resource management integration on performance of state corporations in Kenya?

iii. What are the effects of procurement integration on performance of state corporations in Kenya?

iv. What are the effects of ICT integration on performance of state corporations in Kenya?

1.5 Significance of the Study

There are various benefits that the findings would accrue to the field of enterprise resource management in Kenyan organizations especially in the public sector. These benefits are indicative of the significance of the study and the justifications for the same. The findings of this study would help identify the challenges that are faced by organizations when they are adopting new technologies in Africa, and especially in Kenya. This knowledge will help managers and other stakeholders in the organization to come up with strategies that can be used to increase the benefits that the organization can accrue from a new technology.

This study would offer valuable contribution to theory and practice. This study could be seen in the fact that the outcome can be applied in the development of an ICT policy framework as a guide for ERP adoption, which is relevant in most organizations’ in Kenya which helps in promoting the economic growth.
The study would create a forum for further discussions on best practices to implement an ERP system. This would help organizations in not only looking at ERP just as any other technological adoption but looking at it as a strategic tool that would help an organisation to improve its performance and also towards competing effectively in the competitive field. This would basically give an organization a competitive edge over its rivals.

The study would also act as a source of reference material for future researchers on other related topics. Further, it would help other academicians who will undertake the same topic in their studies. Apart from this, it would also emphasize on other significant relationships that require further research. This may be in the area of relationships between ERP and organizational performance.

1.6 Scope of the Study

This study was carried out in three state corporations namely: Agricultural Development Corporation (ADC), Agricultural Finance Corporations (AFC) and Pest Control Products Board. The study focused on the effects of financial integration, human resource management integration, procurement integration and ICT integration on performance of state corporations in Kenya. Project managers and employees in the department of IT participated in the study. The study covered a period of 2011-2015 because the ERP system was fully rolled out in the last 5 years.
1.7 Limitations of the Study

The study relied on questionnaires with both closed and open ended questions to collect data. Closed ended questions have the disadvantage of limiting the responses whereby the respondent is compelled to answer questions according to the researcher’s choice. However, to overcome this, the researcher ensured that the questions were well thought out and comprehensive enough to cover all important aspects of the study objectives. The study also focused on some of the very busy senior managers and scheduling appropriate timings could be a challenge and could lead to continuous re-scheduling of meetings. However, the researcher tried to keep to appointments by the management.

1.8 Organization of the Study

This study was organized in five chapters. Chapter one comprise of the background to the study, research problem, objectives of the study, purpose of the study, research questions, significance of the study, scope of the study, limitation of the study and assumptions of the study. Chapter two comprise of the theoretical review, empirical review, conceptual framework, knowledge gaps and summary of the literature review. Chapter three comprise of the research methodology, that is, research design, target population, sampling and sample size, data collection instruments, pilot study, data collection techniques, method of data analysis and ethical issues. Chapter four comprise of the research findings and discussion and finally, chapter five comprise of the summary of the findings, conclusion and recommendations.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter dealt with the theoretical review, empirical review based on specific objectives of the study, summary and research gaps and conceptual framework.

2.2 Theoretical Review

2.2.1 Contingency Theory

The study was guided by Contingency Theory (CT) developed by Lawrence and Lorsch (1967). In this study, as the two levels in the research framework are composed of contextual factors or contingencies such as size, culture, structure, and so forth. CT assumes the existence of rational actors and often researchers using it narrow their focus to deterministic models (i.e., only the arrows representing a required association are shown and the effects of other factors are ignored) (Weill & Olson, 1989). Due to the limitations in CT and its gradually diminishing influence among researchers in IS and related field, Weill and Olson (1989) encourage the use of other theories to explain aspects of organizational behavior. The Contingency Theory states that organizational effectiveness in this instance ERP effectiveness or success can result from the matching of organizational characteristics with contingency factors.

2.2.2 Stakeholder Theory (ST)

This study was guided by the Stakeholder Theory (ST) that was proposed by Freeman (1984). ST states that sustainable success rests upon a systematic consideration of the views of all key stakeholders of which organizations are made up (Pouloudi & Whitley, 1997; Lyytinen et al., 1998). The Stakeholder Theory considers two perspectives: inside-in (employees, managers) and inside-out (others: shareholders, partners). In the extent IS literature, stakeholders have been identified based on a particular research purpose. For example, Lyytinen et al (1998) describe
stakeholders as actors that can set forward claims or benefit from IT systems development issues. Singletary et al. (2003) identified stakeholders as managers, IT professionals, and end users. Thus, ST could facilitate insights when ERP success is to be discussed from the point of view of differing organizational stakeholder groups, which appear to be similar to the dictates of the organizational performance literature in which “the perspective of the evaluator” is esteemed (Cameron, 1986). However, there are shortcomings in ST as well. Due to its origins, it tends to focus more on control and governance structures in corporations than on how organizational actors relate with each other. In discussing the cracks in ST, Weiss (2006, p.5) asserts that “ST grounds its view of the moral issues surrounding the enterprise in the issue of the control and governance of large corporations.” Phillips (2004) sums the limitations of ST by noting that historically ST has been plagued by questions on how to allocate management resources, including time, energy, etc. to other stakeholder groups in the corporation. He adds “While there is no determinate algorithm, ST can provide some broad direction on making these decisions”.

2.2.3 Balanced Score Card

This study was guided by balanced Balanced score card by Kaplan & Norton (1995). Balanced Score Card (BSC) suggests managers to view organization’s performance from four dimensions, customer perspective, internal perspective, innovation & learning perspective, financial perspective (Kaplan & Norton, 1995). BSC incorporates financial and non-financial measures in one measurement system. The objectives and measures of BSC are derived from an organization’s vision and strategy. The Balanced Scorecard provides executives with a comprehensive framework that translates a company’s vision and strategy into a coherent set of performance measures. According to Kaplan and Norton (1995) the balanced scorecard not only allows the monitoring of present performance, but also tries to capture information about how
well the organization is positioned to perform in the future. Furthermore, the Balanced Scorecard has evolved to become a core management tool, in that it helps CEOs not only to clarify and communicate strategy, but also to manage strategy. In practice, companies use the BSC approach to accomplish four critical management processes, clarify and translate vision and strategy, communicate and link strategic objectives and measures, plan, set targets, and align strategic initiatives and enhance strategic feedback and learning.

The Balanced Score Card (BSC) is a management system used to align business activities to the vision and strategy of the organization, improve internal and external communication and monitor organizational performance against strategic goals. It is a performance measurement tool that considers not only financial measures but also customer satisfaction, business process and learning measures (Johnson et al., 2008). Organizations primarily uses balanced score card as a performance measurement tool and recommends that the company should provide enough resources especially for funding further comprehensive sensitization on the importance of balanced score card.

2.3 Empirical Review

2.3.1 Financial Integration and Organizational Performance

Poston and Grabski (2011) investigated the impact of ERP system implementation on an organization’s performance. They examined 50 companies adopting ERP systems over a three-year post-implementation phase. They concentrated on three major areas, which they presumed would illustrate ERP system effects on economical performance. These were internal coordination costs, decision information costs and external coordination costs. All of them are included with more detailed cost categories. The results demonstrate a limited and insignificant
positive correlation between ERP and firm performance. However, they reported a significant decrease in the ratio of employees to revenue in each of the 3 years and a significant improvement in the ratio of cost of goods sold to revenue in year three.

The study by Hunton et al (2013) examined 60 companies from which it was possible to acquire performance information before and after ERP implementation for a sufficient number of years. The sample included in addition, companies that had not implemented ERP in order to compare and contrast results. No significant difference in ROA is recognized between pre- and post-implementation performance of ERP companies. Closer home, Koske (2015) performed a study using a survey of 16 manufacturing companies in Kenya to establish the impact of ERP use. The research findings showed that at finance and ERP had a very positive impact on the performance of manufacturing companies in Kenya.

Al-Eqab and Ismail (2011) studied 50 US enterprises for the behaviour of 4 financial variables before and after ERP systems were introduced. Their findings are not quite clear, because they found the number of employees to sales to decrease within the 3 years after the implementation and the cost of goods to sales ratio not to drop until the third year. The selling, administrative and general costs to sales ratio and residual income failed to show major changes following the implementation of the system. Hunton (2013) sought to determine how an ERP implementation influenced the general condition of an enterprise. They compared the rates of return from assets, the rates of return from investments and total asset turnover in ERP users and non-users. The first group was not found to be significantly better off. However, in the period in question the analysed ratios did not deteriorate in the first group, unlike those among ERP non-users. Nicolaou et al (2013) also compared financial data on ERP users and non-users. The authors showed that in the second year following ERP implementation the first group had much better
financial results. The evolutions experienced in information systems have caused them to play a facilitating role in the introduction of accounting techniques (Rom, 2008). Indeed, Granlund (2001) identified that the establishment of an advanced information technology would introduce a change in management accounting practices. In the particular case of ERP systems, the latter is considered an important source of new accounting practices (Booth et al., 2000). Rom (2008) proposed to focus on the technical aspects of ERPs and examine their impact on management accounting practices. In fact, Rom (2008) defined the technical support of an ERP system as the ability of all its technical characteristics to design and consequently to use management accounting practices. Ngongang (2005) validated that there is a statistically significant relationship between accounting practices and performance expressed in terms of autonomy, turnover evolution and reduced cost levels. In addition, and in a context of advanced information technologies, Rom (2008) proposed that these technologies influence the business processes, which in turn influence the business performance. These processes will be represented by the accounting practices adopted by firms after the implementation of an ERP.

2.3.2 Human Resource Management Integration and Organizational Performance

Aggarwal and Kapoor (2012) conducted a study in which they highlighted the importance and strategic role of HRIS towards business competitiveness. They also concluded that HRIS has potential to organizational wide range decision support and it can help an organization to achieve both strategic and operational objectives. Ravichandran and Lertwongsatein (2013) demonstrated that Information System has potential to improve firm performance when its capabilities are channeled to develop distinctive firm competencies. Further, Eris and Galani et al (2010) concluded that IT innovations into business processes play a vital role in the era of information. Companies aiming to achieve and sustain competitive advantage should adopt ERP systems to
benefit from the useful information for decision making.

As a result of information technology innovation and reorganization, enterprise resource planning was proposed by the Gartner Group in the early 1990s. It is a successor to manufacturing resource planning and attempts to unify all departmental systems together into a single, integrated software program that runs off a single database so that the various departments can more easily share information and communicate with each other (Koch, 2002). Over 60% of the U.S Fortune 500 had adopted ERP by 2000 (Kumar, & Hillegersberg, 2000; Siau, 2004), and it was projected that organizations’ total spending on ERP adoptions was an estimated $72.63 billion in 2002 (Al-Marshari, 2002). Scholars have recognized the importance of people in organizations, and this viewpoint is the central focus of the Human Resource Management (HRM) perspective (Pfef-fer, 1995). In this perspective, HRM has the potential to be one of the key components of overall enterprise strategy.

Hawa et al (2012) pointed out that the improvement of an enterprise relies on the success of software engineering projects, which respectively depends on the human resources. The study analyzed the basic human requirements for the successful use of ERP in agricultural sector concentrating on the labor allocation in terms of know-how, profiles and roles of the project team members, and the ways of improving those. Focusing on the human competences has a direct impact on the outcome. Peter (1999) states that new Information Revolution is well under way. It is not a revolution in technology, machinery, techniques, software or speed. It is a revolution in concepts.
The HRM module was introduced into ERP, forming a highly integrated and efficient resource system with the other function modules of ERP. However, there are still many HRM-related problems that may result in the failure of ERP projects arising. So, there have been regular appeals to scholars for more research about the implementation of ERP systems in the HRM perspective in the last few years (Barrett & Mayson, 2006). Within the managerial literatures, a coherent approach provides a conceptual basis for asserting that human resource is a key source of competitive advantages, since it offers a unique contribution to value creation, rarity, imperfect immutability, and non-substitutability of a firm’s strategic resources (Bellini & Canonico, 2007). Stone (2007) considered the past, present, and future of HRM theory and research. He concluded that HRM theory and research has considerable potential to enhance organizational efficiency and effectiveness.

Ashbaugh and Rowan (2002) summarized the technology features of a modern HRM system. In addition, scholars have already studied the relationship or connection of ERP implementation with HRM. For instance, Ashbaugh and Rowan (2002) argued that the major difference between ERP and its predecessors e.g., MRP II is the linkage of financial and HRM applications through a single database in a software application that is both rigid and flexible. Wright and Wright (2002) listed two of the most-cited HRM risks in an ERP system which included lack of user involvement and inadequate training. Sylvestre and Sayed (2006) supplied another often overlooked HRM factor when implementing an ERP system that is, the result of high stress levels on the staff, particularly in the finance or accounting departments, which are already under stress from the heavy workload in a legacy system. Li (2001) studied the HRM function module in an ERP system. He insisted that the practical HRM system should be built up to improve incentive mechanism and to strengthen the training of employees while applying ERP.
The adoption of ERP also greatly impacts HRM by extending its functions to the all direction management category. The functions of HRM have developed from simple compensation calculating and personnel management to the fields of human resource planning, recruitment management, training management, time management, performance management, compensation management, and business trip arrangement (Ahmad & Schroeder, 2003; Li, 2001; Stone, 2007). Data from all function systems will be collected into a central database, and the database can further supply data needed for all function systems by integration.

Organizational strategy is hard to accomplish without Human Resource Management applying the Systems theory. HRM must learn to integrate systems that will benefit the organizations as a whole. McDonnell Douglas Corporation used an integrated systems approach which included a model of various, specific HRM initiatives. The General Systems Theory was applied to organizations and it was asserted that as systems, organizations are made up of interrelated parts. All changes have an effect on other parts of the organization. An initiative will not have desired outcome if other parts of the system are not fully access but interactive” (Broedling, 1999).

The obligation of the employees should be to contribute what is best to the system and not self-motivators. Some components may operate at a loss to themselves in order to optimize the whole system, including the components that take a loss (Broedling, 1999). Organizational theories suggest compensation systems reinforcing HRM values and practices that are established. Leaders who express a set of values and desired behaviors should compensate accordingly. Systems theory is a way of thinking. Like any theory, it can be applied as an approach to organizational change and improvement” (Broedling, 1999). HRM activities which increase key business initiatives include a fair compensation system. HRM systems that have well defined functions go beyond administrative functions. Functions should include roles of strategic partner,
change agent, and employee advocate. Best Human Resource Policy establish a Process Improvement Plan which set the visions and benefits of becoming one company that prioritizes, develops, integrates common processes, tools, and systems that improve performance.

2.3.3 Procurement Integration and Organizational Performance

Pegnato (2013) estimated United States federal procurement at around $200 billion per annum, and Coggburn (2013) put the combined procurement for state and local governments at more than $1 trillion. Thai and Grimm (2010) estimated government’s collective purchasing at around 20 percent of Gross Domestic Product (GDP), and for developing countries, Nicol (2013) put the figure at 15 percent of GDP. For Russia, federal procurement in 2012 was expected to amount to about 40 percent of the country’s budget. The Organization for Economic Cooperation and Development (OECD), Development Assistance Committee (DAC) (2006) estimated the volume of global public sector procurement at 8 percent ($3.2 trillion) of the worldwide GDP of $40 trillion (Nicol, 2013).

A study conducted by Nepelski (2011) sought to find out how electronic procurement influences the organization of economic transactions. It sought evidence for ICT-induced changes in how companies organize their activities and whether ICT lead to more competitive and transparent markets. Testing the relationship between the effect of electronic procurement on procurement cost and sourcing strategy, it was revealed that electronic procurement leads to more market transactions. This led to the conclusion that electronic procurement increases market transparency, lowers search and supplier switching costs and improves the management of supply chain and contradicts the predictions that ICT will lead to a dominance of network-like organizational form and an increasing reliance on hybrid forms of organizing economic transactions.
A study by Akoth (2014) to investigate the relationship between e-procurement and organizational performance on NGOs in Nairobi, Kenya established that the accountability has been encouraged; there is a competitive bidding and sourcing and that there was improved flow of information. The findings of this study were only directly applicable to the NGOs in Nairobi. It only focused on e-procurement implementation and supply chain integration among NGOs in Nairobi. From a sample size of 46 respondents selected from a list of 455 large manufacturing companies, Mose (2013) revealed that majority of the large scale manufacturers in Nairobi, Kenya has adopted e-procurement with the following e-procurement practices: online advertisement of tenders, receiving online submission of proposals for the tenders, and short listing suppliers online among others.

Amin (2012) study on the electronic procurement and organizational performance among commercial state corporations revealed that commercial state corporations in Kenya have adopted e-procurement but there are several functions they still perform manually. These include, short listing of suppliers, call for proposals and tendering process. It was also established that e-procurement has led to cost reduction, improved transparency, and accountability among others. The findings also indicate that the e-procurement system has enabled commercial state corporations in Kenya to provide real time response of feedback to both customers and the market. It was also discovered that the e-procurement system has enabled some of the commercial state corporations to streamline their procurement processes.
2.3.4 ICT Integration and Organizational Performance

Ssweanyana & Busler (2012) examined the extent of adoption and usage of ICT on one hundred and ten firms in Uganda with respect to the contribution of ICT to the firm. The study illustrated that the majority of respondents strongly agree that ICT provides increased savings, increased efficiency, improved service delivery, low transaction costs, and improved market performance to the organization that invests in IT systems. The results further revealed that the adoption and usage of ICT by firms in developing countries follow the same pattern as in developed countries, and they only differ in the level of usage and adoption because there are various factors that determines their success, for instance, high cost of hardware, software, internet and ICT professional, which inhibit governments to adopt appropriate policies to address them.

Heeks (2011) found that the use of ICT can make a significant contribution to the achievement of good services. Analyzing case studies from countries such as the Philippines, Honduras, Chile and South Korea, the study outlined three key contributors of e-service: improving business processes (e-marketing), connecting customers (e-customers and e-service delivery), and building external interactions (business outsourcing). Heeks (2011) also identified two major challenges that developing countries face when it comes to the successful implementation of e-service provisions. First, is the strategic challenge of e-readiness and secondly, the tactical challenge of closing design-reality gap, adopting best practice in e-service projects in order to avoid failure and to achieve success. The study also claimed that that eservices still has certain weaknesses in terms of double processes (physical and online), wrong communication and lack of options for feedback.
Dhakal and Jamil (2010) provided challenges of ICT use and their effects on the service delivery in Nepal. Data revealed that the majority of the respondents viewed much improvement in terms of easier to know information in time (70%); easier to make complain (59%); and service delivery in time (52%). On the other hand, more than half of the respondents confirmed that reporting of services has been in the improvement process. The study concluded that improvements have been felt through the application of ICTs; however, there was a feeling that there is still lack of skills on the use ICT for the better delivery of services.

Findings in the work of Ziadi and Knufie (2012) that examined the impact of ICT on organizations in Tunisia revealed that the Tunisian companies are not yet completely committed to the revolution of the information technology. This lack of initiative is primarily explained by the fact that these new technologies require investments, including development of human resources, which Tunisian companies do not feel ready to provide. Also, Prasad (2013) conducted a study of intangible benefits of IT investments in Fiji. The findings indicated that for businesses in developing countries, their IT investments provide intangible benefits, especially at the process level and this contributes to business value.

Roztocki and Weistroffer (2010), a value chain analysis framework was presented for evaluating investments for services. They argued that in order to achieve reliable cost estimation, the framework employs a costing system, which integrates activity-based costing with economic value-added performance measure. Weistroffer (2013) also examined the impact of ICT on higher education among tertiary teachers and students. The study also explored the issues that emerged from the implementation of ICT in higher education institutions, in the University of Tasmania. His finding revealed that ICT tools employed in learning and teaching can be both advantageous and disadvantageous.
Hwang (2012) examine whether the implementation of ERP impacts both business strategy and organizational capabilities which enhances firm performance, after a secondary data collected from more than 400 firms the study found that ERP implementation has a positive impact when a firm employs a prospector business strategy that will lead to enhances the firm’s ability to achieve higher levels of financial performance moreover the study reports the mediating effect of business strategy and organizational capabilities on the relationship between ERP implementation and firm performance.
### 2.4 Summary and Research Gaps

<table>
<thead>
<tr>
<th>Author</th>
<th>Focus of the Study</th>
<th>Findings</th>
<th>Knowledge gap</th>
<th>Focus of the current study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicolaou and Bhattacharya (2014)</td>
<td>Organizational performance effects of ERP systems usage: The impact of post-implementation changes</td>
<td>long-term financial performance effects of ERP system changes/revisions for firms that have previously reported ERP adoptions</td>
<td>ERP systems integration on organizational performance</td>
<td>Financial integration on organizational performance</td>
</tr>
<tr>
<td>Akoth (2014)</td>
<td>Relationship between e-procurement and organizational performance on NGOs in Nairobi</td>
<td>E-procurement has brought about accountability, competitive bidding and sourcing and improved flow of information</td>
<td>e-procurement has positive effects on organizations</td>
<td>Procurement integration on organizational performance</td>
</tr>
<tr>
<td>Kozak (2015)</td>
<td>ICT evolution on the profit and cost effectiveness of the organizations</td>
<td>There was a significant relationship between the executed ICT, productivity and cost savings</td>
<td>The modernization of ICT has set the stage for extraordinary improvement in organizations procedures throughout the world</td>
<td>ICT integration on organizational performance</td>
</tr>
<tr>
<td>Kalleberg &amp; Moody (2014).</td>
<td>Human resource management and organizational performance.</td>
<td>Human resource policies and practices often identified with high-performing organizations</td>
<td>High-performance work system has attracted considerable attention as an alternative to traditional, mass-production forms of work organization</td>
<td>Human Resource Management integration on organizational performance</td>
</tr>
</tbody>
</table>
2.5 Conceptual Framework

Independent Variables

<table>
<thead>
<tr>
<th>Financial Integration</th>
<th>Human Resource Management Integration</th>
<th>Procurement Integration</th>
<th>ICT Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Accounting Information System</td>
<td>• Human Capital</td>
<td>• E-procurement</td>
<td>• Data Visibility</td>
</tr>
<tr>
<td>• Accounting Techniques</td>
<td>• Human Resources</td>
<td>• E-commerce</td>
<td>• Information Sharing</td>
</tr>
<tr>
<td></td>
<td>• Knowledge Management</td>
<td></td>
<td>• Common Platform</td>
</tr>
</tbody>
</table>

Dependent Variable

Performance in State Corporations
• Profitability
• Operational Efficiency
• Accountability

Source: Researcher (2016)

Figure 2.1: Conceptual Framework

Figure 2.1 shows the relationship between independent variables and dependent variable. The independent variables are the financial integration, human resource management integration, procurement integration and ICT integration. The dependent variable is the organizational performance in state corporations.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter comprised of the research design, target population, sampling design and sample size, data collection instruments, pilot study, data collection techniques, data analysis and ethical consideration.

3.2 Research Design

This study employed a descriptive research design. According to Kothari (2004) descriptive research design is recommended for studies that are concerned with specific predictions, with narration of facts and characteristics concerning individuals, group or situation. According to Cooper and Schindler (2003), a descriptive study is concerned with finding out what, where and how of a phenomenon. Descriptive research includes survey and fact finding inquiries and is applied where the study is using comparative variables in the field of study and the case at hand has no control over the variables and the researcher can only report on what happened or what is happening (Mathooko et al., 2011). Descriptive research design was chosen because it enabled the findings to be generalized to a larger population. It also provided quantitative data from cross section of the chosen population. The study sought to determine the Effects of Enterprise Resource Planning Systems on organizational performance.

3.3 Target Population

According to Mugenda and Mugenda (2003), target population is group, individual, objects or items from which samples are taken measurement in research. Orodho (2005) defines target population as a large population from whom a sample population is needed. The target population in this study was three selected state corporations in Kenya namely: Agricultural Development Corporation, Agricultural Finance Corporation and Pest Control Products Board.
The targeted respondents was 330 respondents comprising of 15 sectional managers and 105 employees from Finance department, IT department, Human resources, Procurement department as shown in table 3.1.

Table 3.1: Target Population

<table>
<thead>
<tr>
<th>Category</th>
<th>Managers</th>
<th>Employees</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Department</td>
<td>3</td>
<td>84</td>
<td>87</td>
</tr>
<tr>
<td>Human Resource Department</td>
<td>3</td>
<td>55</td>
<td>58</td>
</tr>
<tr>
<td>ICT Department</td>
<td>3</td>
<td>35</td>
<td>38</td>
</tr>
<tr>
<td>Procurement Department</td>
<td>3</td>
<td>28</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>202</strong></td>
<td><strong>217</strong></td>
</tr>
</tbody>
</table>

Source: ADC HRM Department (2016)

3.4 Sampling Design and Sample Size

3.4.1 Sample Design

According to Kombo and Tromp (2006), sampling procedures refers to how cases are to be selected for observation. It provides a detailed explanation of the subjects to be involved in investigation and how these are to be selected from the target group. Stratified sampling was used to sample the respondents from the selected four departments (finance, human resource, ICT and procurement). A census method was used to select the managers and simple random sampling was used to select the employees.

3.4.2 Sample Size

Sample size determination is the act of choosing the number of observations or replicates to include in a statistical sample (Kombo & Tromp, 2006). The sample size is an important feature of any empirical study in which the goal is to make inferences about a population from a sample.
In a descriptive research, a sample size of 10-50% is acceptable according to Mugenda and Mugenda (2003). All the managers were selected and a 30% of the population of the employees was used to obtain a sample size. Therefore, the sample size was 75 respondents as shown in Table 3.2.

<table>
<thead>
<tr>
<th>Category</th>
<th>Managers</th>
<th>Employees (30%)</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finance Department</td>
<td>3</td>
<td>84*0.3(25)</td>
<td>28</td>
</tr>
<tr>
<td>Human Resource Department</td>
<td>3</td>
<td>55*0.3(17)</td>
<td>20</td>
</tr>
<tr>
<td>ICT Department</td>
<td>3</td>
<td>35*0.3(10)</td>
<td>13</td>
</tr>
<tr>
<td>Procurement Department</td>
<td>3</td>
<td>28*0.3(8)</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
<td><strong>60</strong></td>
<td><strong>75</strong></td>
</tr>
</tbody>
</table>

Source: Researcher (2016)

### 3.5 Data Collection Instruments

The data collection instruments for this study were questionnaires for the employees and interviews for the sectional managers.

#### 3.5.1 Questionnaires

According to Orodho (2005), a questionnaire is a set of questions designed to generate the data necessary to accomplish the objectives of the research project. Cooper and Schindler (2003) recommends the use of questionnaires in descriptive studies because they are cost effective than personal interviews and researcher can contact participants who might be inaccessible. Questionnaires with both closed and open ended questions were used to capture more data from the respondents using a Likert scale. The closed–ended questions provided more structured responses to facilitate tangible recommendations while the open ended questions provided
additional information that could not have been captured in the closed ended questions.

The questionnaires were separated in to five segments labeled A-E. Segment A collected the general information of the respondents, Section B collected information on financial integration, section C collected information on human resource management integration, section D collected information on procurement integration, section E collected information on ICT integration and section F collected information on organizational performance in state corporations.

3.5.2 Interview
An interview is one way of investigating a group’s attitudes and opinions. The interview guides contained items covering all the objectives of the study. Bell (1997) claim that interviews provide reliable, valid and theoretically satisfactory results than a questionnaire especially in societies where interaction is highly personalized. He goes on to say that through an interview, one gets better cooperation and more informative answers than a questionnaire. The interview schedules were based on the research questions to allow for probing of the respondents to elicit insightful information.

3.6 Pilot Study
According to (Orodho, 2005), pilot study helps to test the reliability and validity of data collection instruments. Before the actual data is collected; the researcher carried out a pilot study in Agricultural Development Corporation (ADC) because it is a state corporation and it will not be included in the study. The pilot study comprised of 10 respondents. The reason behind pilot study was to assess the clarity of the questionnaire items so that those items found to be vague or inadequate was discarded or modified to improve the quality of the research instruments.
3.6.1 Validity of the Instrument

Mugenda and Mugenda (2003) notes that validity has to do with how accurate the data obtained in the study represents the variables of the study and is a true reflection of the variables. It is only then that inferences based in such data would be accurate and meaningful. To ascertain validity of the questionnaire the researcher consulted statistician for further improvements to make criticism and comments on the same. Their comments were incorporated in the questionnaires before the final administration of the instruments on the participants of the study. According to Mason and Bramble (1989), Validity can be defined as the degree to which a test measures what it is supposed to measure and there are three basic approaches to the validity which include content validity, construct validity, and criterion-related validity. In this case, content validity was looked at. Borg and Gall (1989) state that content validity of an instrument is improved through expert judgment and as such the researcher sought assistance of the university supervisor to find out whether the instruments could measure what it intended to measure.

3.6.2 Reliability of the Instrument

Cooper and Schindler (2011) explain reliability of research as determining whether the research will truly measure that which it was intended to measure or how truthful the research results will be. Reliability will be assessed with the use of Cronbach’s alpha coefficient. The coefficient was used to estimate the proportion of variance that is systematic or consistent in a set of test scores. The analysis was conducted for all statements structured on a likert point scale using Cronbach alpha score test. The alpha value ranges between 0 and 1 with reliability increasing with the increase in value. Coefficient of 0.6-0.7 is a commonly recommended that indicates acceptable reliability and 0.8 or higher indicate good reliability (Mugenda & Mugenda, 2003). This study obtained a coefficient of 0.8.
Table 3.3: Reliability Test Results

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
<th>Cronbach's Alpha Based on Standardized Items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
<td>.8181</td>
<td>.724</td>
</tr>
</tbody>
</table>

Source: Survey Data (2017)

Reliability was assessed with the use of Cronbach’s alpha coefficient to obtain a coefficient. A coefficient of 0.8 was obtained. Reid (2006) indicate that as a general rule, a coefficient greater than or equal to 0.7 is considered acceptable and a good indication of construct reliability. Therefore, a coefficient of 0.8181 showed that the instruments had a higher reliability that prompted the researcher carry on with the data collection.

3.7 Data Collection Procedure

The data collection method which was used was questionnaire, which was handed to the Managers, after an introductory conversation. Prior to the commencement of data collection the researcher also send a formal letter to the company asking them for full cooperation with the researcher. A covering letter from the university was attached to the questionnaire, which included a brief description of the research proposal and assurance about confidentiality of the information obtained from the respondents.

Questionnaires were physically given to the respondents in the selected Company for data collection through Head of divisions or managers by drop and pick method. The questionnaires were checked for completeness and consistency of information at the end of every field data collection day and before storage. The researcher gave the respondents a timeline of two weeks for response after which he approached them to collect the questionnaires.
3.8 Data Analysis and Presentation

The study used both quantitative and qualitative method of data analysis. Quantitative analysis was used on data collected through questionnaires. Collected data was first coded and then quantitatively analyzed using descriptive statistics such as mean and standard deviation according to statistical information derived from the research questions. The coded data was then tabulated and presented for statistical analysis by calculating the percentages, means and variance on each variable by use of Statistical Package for Social Sciences (SPSS) version 17.0. Data results were presented in tables, graphs and charts to give a clear picture on the findings. Content analysis technique was used to analyze qualitative data collected using interview schedules and reported in narrative form. Multiple regression analysis was used to show relationship between independent variable and the dependent variable. The regression equation was:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \]

Whereby \( Y \) = Organizational Performance in State Corporation

\( X_1 \) = Financial Integration

\( X_2 \) = Human Resource Management Integration

\( X_3 \) = Procurement Integration

\( X_4 \) = ICT Integration

\( \beta_1, \beta_2, \beta_3 \) and \( \beta_4 \) are coefficients of determination

\( \varepsilon \) is the error term.
3.9 Ethical Consideration

The integrity of research process is an essential aspect of university culture and intellectual structure. Personal information about the private life that was given by respondents was kept private by the researcher. The researcher assured the respondents that no private information could be disclosed to a third party concerning the findings. The respondent was assured that no identity regarding the research could be revealed to anyone and that the nature and purpose of the research was explained to the respondents. The researcher clearly explained to the respondent the procedures to be followed during the data collection so that they could be able to take part willingly.
CHAPTER FOUR: DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter discusses the interpretation and presentation of the findings obtained from the field. The general objective of this study was to investigate effect of enterprise resource planning system on organizational performance in state corporations in Kenya. The specific objectives of the study were to examine the influence of financial integration, human resource management integration, procurement integration and ICT integration on organizational performance in state corporations in Kenya.

The chapter presents the background information of the respondents, findings of the analysis based on the research objectives of the study. Descriptive and inferential statistics have been used to discuss the findings of the study. Quantitative data was analysed using descriptive statistics such as mean and standard deviation and presented in tables, graphs and charts with use of Statistical Package for Social Sciences (SPSS).

4.2 Response Rate

The study targeted a sample size of 75 respondents comprising of 15 managers and 60 employees and their response rate is shown in Table 4.1.

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers</td>
<td>12</td>
<td>80.0</td>
</tr>
<tr>
<td>Employees</td>
<td>55</td>
<td>91.7</td>
</tr>
<tr>
<td>Total</td>
<td>67</td>
<td>89.3</td>
</tr>
</tbody>
</table>

Source: Survey Data (2017)
The results in Table 4.1 show that the managers had a response rate of 80.0% and employees 91.7%. The overall response rate was 89.3%. According to Mugenda and Mugenda (2003), a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. Based on the assertion, the response rate was excellent. The questionnaire return rate was high because the researcher ensured that the respondents had been sensitized prior to administration of the questionnaires.

4.3 Demographic Data

On the demographic data of the employees, the study sought to establish the respondents’ gender, education level and work experience.

4.3.1 Gender

The respondents were asked to indicate their gender to which they gave their responses as indicated in Figure 4.1.

Figure 4.1: Respondents’ Gender

![Pie chart showing gender distribution]

Source: Survey Data (2017)

Figure 4.1 shows that male respondents were majority (58.2%) and female respondents formed 41.8%. This is an indication that both genders were involved in this study and thus the finding of the study did not suffer from gender bias.
4.3.2 Level of Education

The respondents were asked to indicate their level of education to which they gave their responses as indicated in Table 4.2.

Table 4.3: Level of Education

<table>
<thead>
<tr>
<th>Level</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>9</td>
<td>16.4</td>
</tr>
<tr>
<td>Post Graduate Diploma</td>
<td>5</td>
<td>9.1</td>
</tr>
<tr>
<td>Bachelors Degree</td>
<td>25</td>
<td>45.5</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>16</td>
<td>29.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>55</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Source: Survey Data (2017)*

Table 4.2 shows that the respondents who had attained a bachelors degree level of education were majority (45.5%), followed by those with Master’s Degree (29.1%), Diploma, 16.4% and Post Graduate Diploma (9.1%). This depicts that most of the employees working with the state corporations in Kenya had attained a high level of education hence they were capable to implement enterprise resource planning system on organizational performance.
4.3.3 Work Experience

The respondents were asked to indicate their work experience in state corporations in Kenya to which they gave their responses as indicated in Figure 4.2.

**Figure 4.2: Work Experience**

![Graph showing work experience distribution](image)

**Source: Survey Data (2017)**

Figure 4.2 shows that the respondents with work experience of 10 to 15 years were the majority (38.2%) followed by those with work experience of over 15 years (32.7%), 5 to 9 years (20.0%) and less than 5 years (9.1%). This implies that majority of the respondents had worked with the state corporation for a considerable period of time and thus they were in a position to give credible information relating to this study.

4.4 Descriptive Analysis of Financial Integration

The respondents were given a list of statements on a five-point likert scale to indicate their extent to which they concur regarding the influence of financial integration on organizational performance in state corporations in Kenya. Their responses are shown in table 4.3.
Table 4.4: Financial Integration

<table>
<thead>
<tr>
<th>Statement</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>The amount of information has become more important, and the data are</td>
<td>4.71</td>
<td>0.916</td>
</tr>
<tr>
<td>updated and relevant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is the use of new management accounting techniques that meet the</td>
<td>4.25</td>
<td>0.799</td>
</tr>
<tr>
<td>internal needs of the company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial integration has led to scope, timeliness, aggregation and</td>
<td>4.16</td>
<td>0.898</td>
</tr>
<tr>
<td>integration of information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information system is characterized by the accounting practices used, by</td>
<td>4.05</td>
<td>0.870</td>
</tr>
<tr>
<td>the Information quality and ERP system quality.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>There is a reduction in the time and frequency of preparation of</td>
<td>4.45</td>
<td>1.068</td>
</tr>
<tr>
<td>financial statements (monthly, quarterly and annual financial statements)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aggregate</td>
<td>4.324</td>
<td>0.91</td>
</tr>
</tbody>
</table>

**Key:** M – Mean; SD – Standard Deviation

**Source:** Survey Data (2017)

The results in Table 4.3 shows that majority of the respondents strongly agreed on the statement that the amount of information has become more important, and the data are updated and relevant (M=4.71, SD=0.916) and there is a reduction in the time and frequency of preparation of financial statements (monthly, quarterly and annual financial statements) (M=4.45, SD=1.068). These findings are consistent with those of Kanellou and Spathis (2011) who confirmed that there is a reduction in the time and frequency of preparation of financial statements (monthly, quarterly and annual financial statements) after the adoption of an ERP. The mean of 4.25 showed that there is high use of new management accounting techniques that meet the internal needs of the company. These factors varied significantly as indicated by standard deviation of 0.799. As observed by Salehi et al (2010), a sophisticated AIS improves accounting performance. This performance is reflected in the adoption of new accounting techniques. The mean of 4.16 indicated that financial integration has led to scope, timeliness, aggregation and integration of information in state corporations in Kenya which varied significantly as indicated
by a standard deviation of 0.899. This is in accordance the observation of Al-Eqab and Ismail (2011) who demonstrated that extended, timely, frequent, aggregated and integrated accounting information should be particularly useful for managers to enable them to respond quickly to changing environmental and market demands. The mean of 4.05 show a high characterized information system by the accounting practices used, by the information quality and by the ERP system quality. This varies significantly as indicated by standard deviation of 0.870. Chenhall (2013) indicate that AIS provides both historical and forecasting accounting information that covers financial accounting, management control and financial analysis. On the other hand, Galani et al (2010) showed that the more the information that results from an ERP system is of greater quality, the more it provides support for leaders to establish strategic and operational budgets.

From the interviews, managers indicated that in managing an organization and implementing an internal control system the role of accounting information system (AIS) is crucial. Accounting information systems (AIS) is one of information systems that produce many amounts of data for use by decision makers both within and outside organizations. Since accounting information is able to measure and present economic events to users financial statements for judgments and decision makings. The managers further indicated that staff and customers utilize the capabilities of AIS. The major challenges were lack of proper training and lack of proper system documentation as some of the challenges they face.
4.5 Descriptive Analysis of Human Resource Management

The respondents were given a list of statements on a five-point likert scale to indicate their extent to which they concur regarding the influence of human resource management on organizational performance in state corporations in Kenya. Their responses are shown in table 4.4.

**Table 4.5: Human Resource Management Integration**

<table>
<thead>
<tr>
<th>Statement</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of sufficient HR for the project</td>
<td>4.42</td>
<td>0.712</td>
</tr>
<tr>
<td>Availability of expertise</td>
<td>4.55</td>
<td>0.503</td>
</tr>
<tr>
<td>Skilful and competent project team members</td>
<td>4.02</td>
<td>1.340</td>
</tr>
<tr>
<td>Composition of project teams</td>
<td>4.27</td>
<td>0.732</td>
</tr>
<tr>
<td>Relationship of trust among project team members</td>
<td>4.45</td>
<td>0.538</td>
</tr>
<tr>
<td><strong>Aggregate</strong></td>
<td><strong>4.34</strong></td>
<td><strong>0.77</strong></td>
</tr>
</tbody>
</table>

*Key: M – Mean; SD – Standard Deviation*

**Source: Survey Data (2017)**

The results in Table 4.4 show that majority of the respondents strongly agreed on the statement availability of expertise as indicated by a mean of 4.55 and varies significantly as indicated by a standard deviation of 0.503. These findings concur with those of Hawa et al (2012) who pointed out that the improvement of an enterprise relies on the success of software engineering projects, which respectively depends on the human resources. The mean of 4.55 showed a high relationship of trust among project team members which varied significantly as indicated by a standard deviation of 0.538. This according to Davenport (1998) who noted an ERP system supports HRM, operation and logistics, finance, and sales and marketing functions. State corporations have sufficient HR for the project as indicated by a mean of 4.42 which varied significantly as indicated by a standard deviation of 0.712. This is in line with the findings of
Bowen and Ostroff (2004) who observed that HRM may provide significant competitive advantage opportunities when they are used to create a unique organizational culture that institutionalizes organizational competencies throughout the organization. It was observed that state corporations have high composition of project teams as indicated by a mean of 4.27 and a significance variance of 0.732 and also there was high skilful and competent project team members as indicated by a mean of 4.02 and a standard deviation of 0.732. Scholars have recognized the importance of people in organizations, and this viewpoint is the central focus of the Human Resource Management (HRM) perspective (Pfef-fer, 1995). In this perspective, HRM has the potential to be one of the key components of overall enterprise strategy.

From the interviews, managers indicated that human resource plays a very significant role in the success of organizational performance. HR has made a significant contribution to the success of business/organizational goals as well as enabling them have a competitive edge over other organizations. There has been recognition of HR skills, abilities and experience and their contribution to the success of organizations. Integration is achieved when the formal structure of an organization and the human resource systems are aligned to an extent where they drive the strategic objective of the organization.

Additionally, But the early development stage of ERP in enterprises was all along with the center of production and sales course. Until recently, research has empirically supported the positive relationship between corporate financial performance and HRM function, and managers have also realized that HRM can deliver organizational excellence and competitive advantage for enterprises (Boudreau & Ramstad, 1997; Huselid, 1995; Wright, McMahan, Snell, & Gerhart, 2001).
4.6 Descriptive Analysis of Procurement Integration

The respondents were further given a list of statements on a five-point likert scale to indicate their extent to which they concur regarding the influence of procurement integration on organizational performance in state corporations in Kenya. Their responses are shown in table 4.6.

**Table 4.6: Procurement Integration and Organizational Performance**

<table>
<thead>
<tr>
<th>Statement</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>E-procurement leads to the effective management of its supply chain</td>
<td>4.18</td>
<td>0.722</td>
</tr>
<tr>
<td>Procurement integration helps the public sector to achieve their objectives And prepare for the uncertainty ahead</td>
<td>4.44</td>
<td>0.501</td>
</tr>
<tr>
<td>Procurement goals are primarily associated with quality, reduction of Financial and technical risks and protection over competition and integrity in the system</td>
<td>4.55</td>
<td>0.689</td>
</tr>
<tr>
<td>Procurement process requires focus on driving costs out of the cost base</td>
<td>4.04</td>
<td>1.170</td>
</tr>
<tr>
<td>ERP systems provide reductions in material requirements uncertainty due to increased potential to benefit from the use of B2B marketplaces for Internet-based procurement</td>
<td>4.36</td>
<td>0.704</td>
</tr>
<tr>
<td><strong>Aggregate</strong></td>
<td><strong>4.314</strong></td>
<td><strong>0.76</strong></td>
</tr>
</tbody>
</table>

**Key:** M – Mean; SD – Standard Deviation

**Source:** Research Data (2017)

The results in Table 4.5 shows that majority of the respondents strongly agreed that procurement goals are primarily associated with quality, reduction of financial and technical risks, and protection over competition and integrity in the system as indicated by a mean of 4.55 and a significance variance of 0.689. This agrees with Sollish and Semanik (2012) who observe that Procurement practices are a set of activities undertaken by an organization to promote effective management of its supply chain. The mean of 4.44 indicate that procurement integration highly helps the public sector to achieve their objectives and prepare for the uncertainty ahead. This varied significantly as indicated by a standard deviation of 0.501. The respondents strongly
agreed as indicated by a mean of 4.36 that ERP systems provide reductions in material requirements uncertainty due to increased potential to benefit from the use of B2B marketplaces for Internet-based procurement. This varied significantly as indicated by a standard deviation of 0.704. Clearly, procurement has a significant role to play in helping the public sector achieve their objectives and prepare for the uncertainty ahead. In part, this will require procurement to focus on driving costs out of the cost base. But the opportunity also exists for the function to add value in a much more strategic way as indicated by Leenders et al (2008). E-procurement leads to the effective management of its supply chain as indicated by a mean of 4.18 and a significant variance of 0.722). Thai (2011) describes two types of goals in the procurement system: non procurement goals and procurement goals. Procurement goals are primarily associated with quality, reduction of financial and technical risks, and protection over competition and integrity in the system and procurement process in state corporations requires focus on driving costs out of the cost base as indicated by a mean of 4.04 which varied significantly as indicated by a standard deviation of 1.170. According to Thai (2011), non procurement goals usually involve the economic, social, and political goals within the system. Achieving efficiency in public procurement is an ambitious task, as procurement faces numerous challenges, especially due to the market structure, the legal framework and the political environment that procurers face.

From the interviews, managers indicated that procurement integration improved supplier performance, cost reduction, branch network of the organization, customer’s responsiveness, sales increase and profitability of the organization to a great extent. The managers further indicated that procurement best practices enable the company to reinvent their cost structures, support the company in achieving critical efficiency improvements in the short term direct or indirect manipulation of the key purchase levers of price of goods and volume of purchase.
4.7 Descriptive Analysis of ICT Integration

The respondents were given a list of statements on a five-point likert scale to indicate their extent to which they concur regarding the influence of ICT integration on organizational performance in state corporations in Kenya. Their responses are shown in table 4.7.

Table 4.7: Procurement Integration and Organizational Performance

<table>
<thead>
<tr>
<th>Statement</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process improvement</td>
<td>4.67</td>
<td>0.883</td>
</tr>
<tr>
<td>Enhancement of decision making</td>
<td>4.35</td>
<td>0.775</td>
</tr>
<tr>
<td>Data visibility from location</td>
<td>4.36</td>
<td>0.754</td>
</tr>
<tr>
<td>Need for common platform</td>
<td>4.16</td>
<td>0.918</td>
</tr>
<tr>
<td>Cost reduction in planning</td>
<td>4.55</td>
<td>0.689</td>
</tr>
<tr>
<td>Activity integration in the whole company</td>
<td>4.38</td>
<td>1.114</td>
</tr>
<tr>
<td><strong>Aggregate</strong></td>
<td><strong>4.411</strong></td>
<td><strong>0.856</strong></td>
</tr>
</tbody>
</table>

**Key:** M – Mean; SD – Standard Deviation

**Source:** Survey Data (2017)

The results in Table 4.6 show that majority of the respondents strongly agreed that process improvement as indicated by a mean of 4.67. This varied significantly as indicated by a standard deviation of 0.883. This is in agreement with the findings of Rajesh (2011) who assert that ERP systems attempt to integrate all business processes into one enterprise wide solution to enhance data homogeneity and integration of modular applications. The mean of 4.55 showed a high cost reduction in planning through ICT integration which varied significantly as indicated by a standard deviation of 0.689. Lucas (1981) highlights the fact that information technology is used to capture, transmit, store, retrieve, manipulate, or display information in one or more businesses. The mean of 4.38 indicated that there is high activity integration in State Corporations which varied significantly as indicated by a standard deviation of 1.114. The mean of 4.36 showed a
high data visibility from location which varied significantly as indicated by a standard deviation of 0.754. According to Iiavari (1991) an Information System is a collection of subsystems defined by either functional or organizational parameters that support decision making and control the organization. The mean of 4.35 indicated that through ICT integration state corporations in Kenya led high enhancement of decision making which varied significantly as indicated by a standard deviation of 0.775 and also there is high need for common platform as indicated by a mean of 4.16 and a standard deviation of 0.918. An Information system in an organization provides processes and information useful to its members and clients. It helps it to operate more effectively. The information concerns its customers, suppliers, products, procedures, operations and so on (Avison & Fitzgerald, 2006).

From the interviews, managers indicated that ICT is integrated within the ERP system which enables more accessibility, visibility of information, availability of variety of products and client satisfaction. The current information and communications technologies is always updated, upgraded and seamless integration both internally and externally should is done to improve the performance of State Corporation in Kenya. The integration of ICT in the State Corporations benefit both, service providers and customers bringing together other stakeholders as well, on a common platform.
4.8 Organizational Performance in State Corporations

Figure 4.3: Organizational Performance in State Corporations

![Bar Chart showing (ROI,ROE) of ADC from 2011 to 2015]

Source: Survey Data (2017)

Figure 4.3 shows that Return on Investment (ROI) of ADC increased from 49.3% to 58.9% from the year 2011 to 2015 with the adoption of ERP system. Likewise, Return on Equity from 39.4% in the year 2011 to 53.0% in the 2015. This is an indicator that ERP system has led to higher performance in ADC. Organizational performance is the final achievement of an organization and contains; existence of certain targets to be achieved, has a period of time in achieving the targets and the realization of efficiency and effectiveness (Gibson et al., 2010). On the other hand, organizational performance refers to ability of an enterprise to achieve such objectives as high profit, quality product, large market share, good financial results, and survival at predetermined time using relevant strategy for action. Organizational performance can also be used to view how an enterprise is doing in terms of level of profit, market share and product quality in relation to other enterprises in the same industry. Consequently, it is a reflection of productivity of members of an enterprise measured in terms of revenue, profit, growth, development and expansion of the organization (Gibson et al., 2010).
4.9 Inferential Statistics

In order to establish the effect of independent variables on the dependent variable, data was collected on each of the identified independent variable and thereafter, regression analysis was done. However, before carrying out the regression analysis, it was necessary to carry out correlation analysis was done to show the strength of a relationship between the independent variables and dependent variable.

4.9.1 Correlation

Table 4.8: Correlation Analysis

<table>
<thead>
<tr>
<th></th>
<th>financial integration</th>
<th>human resource management integration</th>
<th>procurement integration</th>
<th>ICT integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>financial integration</td>
<td>Pearson Correlation</td>
<td>1</td>
<td>.155</td>
<td>-.054</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.259</td>
<td>.693</td>
<td>.357</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>55</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>human resource</td>
<td>Pearson Correlation</td>
<td>.155</td>
<td>1</td>
<td>.614**</td>
</tr>
<tr>
<td>management integration</td>
<td>Sig. (2-tailed)</td>
<td>.259</td>
<td>.000</td>
<td>.029</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>55</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>procurement integration</td>
<td>Pearson Correlation</td>
<td>-.054</td>
<td>.614**</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.693</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>55</td>
<td>55</td>
<td>55</td>
</tr>
<tr>
<td>ICT integration</td>
<td>Pearson Correlation</td>
<td>.127</td>
<td>.295*</td>
<td>.555**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.357</td>
<td>.029</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>55</td>
<td>55</td>
<td>55</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.01 level (2-tailed).

Source: Survey Data (2017)
The Pearson correlation for financial integration was found to be \(r=0.54\) \((p<0.05)\) which showed a weak correlation and a negative significance with procurement integration as compared with the rest of the variables at 0.05 level of significance. P value was 0.693 greater than 0.05 which showed that the relationship was not significant. The Pearson correlation for human resource management integration was found to be \(r=0.614\) \((p>0.05)\) which showed a strong correlation and a positive significance with procurement integration as compared with the rest of the variables at 0.05 level of significance. P value was 0.00 less than 0.05 which showed a significance relationship. The Pearson correlation for procurement integration was found to be \(r=0.555\) \((p>0.05)\) which showed a weak correlation and a positive significance with ICT integration as compared with the rest of the variables at 0.05 level of significance. P value was 0.00 less than 0.05 which showed a significance relationship. The Pearson correlation for ICT integration was found to be \(r=0.127\) \((p>0.05)\) which showed a weak correlation and a positive significance with financial integration as compared with the rest of the variables at 0.05 level of significance. P value was 0.357 greater than 0.05 which showed that there was no significance relationship.
4.10 Regression Analysis

The researcher conducted a multiple regression analysis so as to test relationship among independent variables and dependent variable. The researcher applied the statistical package for social sciences (SPSS) version 17.0 to code, enter and compute the measurements of the multiple regressions for the study.

Table 4.9: Results of Multiple Regressions

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>St. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.622</td>
<td>0.756</td>
<td>0.678</td>
<td>0.598</td>
</tr>
<tr>
<td>Financial Integration</td>
<td>0.654</td>
<td>0.547</td>
<td>0.756</td>
<td>0.500</td>
</tr>
<tr>
<td>HRM Integration</td>
<td>0.712</td>
<td>0.478</td>
<td>0.841</td>
<td>0.498</td>
</tr>
<tr>
<td>Procurement Integration</td>
<td>0.568</td>
<td>0.641</td>
<td>0.613</td>
<td>0.496</td>
</tr>
<tr>
<td>ICT Integration</td>
<td>0.632</td>
<td>0.599</td>
<td>0.703</td>
<td>0.502</td>
</tr>
</tbody>
</table>

Source: Research Data (2017)

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable that is explained by all the four independent variables. The four independent variables that were studied, explain only 75.6% of the performance of organizational performance in state corporations in Kenya by the R squared. This therefore means that other factors not studied in this research contribute 24.4% of the performance of organizational performance in state corporations in Kenya. Therefore, further research should be conducted to determine the influence of performance of organizational performance in state corporations in Kenya.
Based on regression analysis results, it is evident that procurement integration had the most impact on organizational performance with 64.1% having integrated e-procurement processes like tendering and internal requisitions. Therefore it is one of the modules that the company can focus on by investing more on e-commerce and e-procurement business processes in order to improve performance even more.

HRM integration had the least impact on performance with 47.8% and therefore the company can invest more on human capital, human resources, knowledge management and training and development in order to improve on performance. Financial integration had an impact of 54.7% and therefore the module can also be improved by investing more on training and developing Finance staff on importance of AIS and Accounting techniques. ICT integration had an impact of 59.9% on performance second after procurement and therefore the company should also focus on its improvement by investing more in Systems Administration training of staff so that they can be able to provide proper systems support and maintenance to the entire organization. This will include improvement on Data visibility, Information flow and common platform for information sharing.
4.11 Determination of Coefficient

Table 4.10: Determination of Coefficient

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>0.431</td>
<td>0.542</td>
<td>0.211</td>
<td>4.123</td>
</tr>
<tr>
<td>Financial Integration</td>
<td>0.756</td>
<td>0.300</td>
<td>0.211</td>
<td>3.978</td>
</tr>
<tr>
<td>Human Resource Management Integration</td>
<td>0.841</td>
<td>0.399</td>
<td>0.354</td>
<td>2.745</td>
</tr>
<tr>
<td>Procurement Integration</td>
<td>0.613</td>
<td>0.284</td>
<td>0.354</td>
<td>3.461</td>
</tr>
<tr>
<td>ICT Integration</td>
<td>0.706</td>
<td>0.461</td>
<td>0.245</td>
<td>2.999</td>
</tr>
</tbody>
</table>

Source: Research Data (2017)

As per the SPSS generated table above, the equation \( Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon \) becomes: \( Y = 0.431 - 0.756X_1 + 0.841X_3 - 0.613X_3 + 0.706X_4 \)

Where \( Y \) = Performance of State Corporations

\( X_1 \) = Financial Integration

\( X_2 \) = Human Resource Management Integration

\( X_3 \) = Procurement Integration

\( X_4 \) = ICT Integration

According to the regression equation established, taking all factors into account (financial integration, human resource management integration, procurement integration and ICT integration) constant at zero, organizational performance of State Corporation will be 43.1%.
4.11.1 Financial Integration

The study revealed that financial integration had a positive and significant effect on organizational performance in state corporations in Kenya as indicated by t values (t= 3.978, p < 0.05). Naranjo-Gil (2010) characterized AISs according to the information characteristics generated by these information systems, namely the scope, timeliness, aggregation and integration of information. In addition, Gable et al (2013) stated that system quality and information quality are two major characteristics of information systems.

4.11.2 Human Resource Management Integration

The study revealed that human resource management integration had a positive and significant effect on organizational performance in state corporations in Kenya as indicated by t values (t=2.745, p < 0.05). Scholars have recognized the importance of people in organizations, and this viewpoint is the central focus of the Human Resource Management (HRM) perspective (Pfef-fer, 1995). In this perspective, HRM has the potential to be one of the key components of overall enterprise strategy.

4.11.3 Procurement Integration

The study revealed that procurement integration had a positive and significant effect on organizational performance in state corporations in Kenya as indicated by t values (t= 3.461, p < 0.05). Clearly, procurement has a significant role to play in helping the public sector achieve their objectives and prepare for the uncertainty ahead. In part, this will require procurement to focus on driving costs out of the cost base. But the opportunity also exists for the function to add value in a much more strategic way (Leenders et al., 2008).
4.11.4 ICT Integration

The study revealed that procurement integration had a positive and significant effect on organizational performance in state corporations in Kenya as indicated by t values ($t=2.999$, $p < 0.05$). According to Iivari (1991) an Information System is a collection of subsystems defined by either functional or organizational parameters that support decision making and control the organization. Lucas (1981) highlights the fact that information technology is used to capture, transmit, store, retrieve, manipulate, or display information in one or more businesses.
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction
The chapter provides the discussion of findings, gives the conclusions and recommendations of the study based on the objectives of the study.

5.2 Summary of the Findings
The general objective of this study was to investigate effect of enterprise resource planning system on organizational performance in state corporations in Kenya. 67 respondents participated in the study comprising of 12 manager and 55 employees from Agricultural Development Corporation.

The Pearson correlation for financial integration was found to be $r=-0.54$ ($p<0.05$) which showed a weak correlation and a negative significance with procurement integration as compared with the rest of the variables at 0.05 level of significance. P value was 0.693 greater than 0.05 which showed that the relationship was not significant.

The Pearson correlation for human resource management integration was found to be $r=0.614$ ($p>0.05$) which showed a strong correlation and a positive significance with procurement integration as compared with the rest of the variables at 0.05 level of significance. P value was 0.00 less than 0.05 which showed a significance relationship.

The Pearson correlation for procurement integration was found to be $r=0.555$ ($p>0.05$) which showed a weak correlation and a positive significance with ICT integration as compared with the rest of the variables at 0.05 level of significance. P value was 0.00 less than 0.05 which showed a significance relationship.
The Pearson correlation for ICT integration was found to be $r=0.127$ ($p>0.05$) which showed a weak correlation and a positive significance with financial integration as compared with the rest of the variables at 0.05 level of significance. P value was 0.357 greater than 0.05 which showed that there was no significance relationship.

5.2.1 Effect of Financial Integration on Performance

The study revealed that financial integration had a positive and significant effect on performance of state corporations in Kenya as indicated by t values. The aggregate mean of 4.324 shows that financial integration on ERP has a greater influence on organizational performance with a significance variance of 0.91. The mean of 4.71 showed that the amount of information has highly become more important, and the data are more updated and relevant with a significance variance of 0.916) and there is a higher reduction in the time and frequency of preparation of financial statements (monthly, quarterly and annual financial statements) as shown by a mean of 4.45 and a significance variance of 1.068.

5.2.2 Human Resource Management Integration

The study established that human resource management integration had a positive and significant effect on performance of state corporations in Kenya as indicated by t values. The aggregate mean of 4.34 shows that human resource management integration on ERP highly influences the organizational performance with a significance variance of 0.77. There is availability of expertise as shown by a mean of 4.55 and a standard deviation of 0.503 and There is a greater relationship of trust among project team members as indicated by a mean of 4.45, and a significance variance of 0.538. Human resource plays a very significant role in the success of organizational performance.
5.2.3 Procurement Integration

The study found that procurement integration had a positive and significant effect on performance of state corporations in Kenya as indicated by t values. The aggregate mean of 4.314 shows that procurement integration on ERP has a greatly influence the organizational performance with a significance variance of 0.76. The mean of 4.55 showed that procurement goals are highly associated with quality, reduction of financial and technical risks, and protection over competition and integrity in the system with a significance variance of 0.689 and procurement integration greatly helps the public sector to achieve their objectives and prepare for the uncertainty ahead as shown by a mean of 4.44 and a significance variance of 0.501).

5.2.4 ICT Integration

The study examined that ICT integration had a positive and significant effect on performance of state corporations in Kenya as indicated by t values. The aggregate mean of 4.411 shows that ICT integration on ERP has a greater influence on organizational performance with a significance variance of 0.856. The study further established that that the organization highly embarked on process improvement as shown by a mean of 4.67 and a standard deviation of 0.883 and cost reduction in planning with a mean of 4.55 and significance variance of 0.689.
5.3 Conclusion

The study concludes that financial integration are critical to the production of quality accounting information on a timely basis and the communication of that information to the decision makers. The study findings established that there is a relationship between the financial integration and organizational performance, though it is important to highlight that an in-depth study is required to examine other factors that may influence this relationship. The information value generated by through financial integration to shareholders and stakeholders in making investment decisions is invaluable. The major challenges were lack of proper training and lack of proper system documentation as some of the challenges they face.

The study concludes that proper management of the human resource is the main objective for HR in supporting the organization’s strategic development. Majority of the organizations have increasingly come to view the human resource as a unique asset that can provide sustained competitive advantage. Business success can only be achieved if organizations are successful at managing their human capital to achieve a competitive edge.

The study concludes that through procurement integration best practices the state corporation focuses to achieve key performance indicators on different aspects of a procurement system, including cost, quality and timeliness of processes, system productivity and system integrity. The procurement system is influenced by culture and technology. The aspect of how to control and coordinate the activity between the state corporations in the supply chain and how ICT affects the level of control integration in the supply chain is of great importance.

From the findings the study concludes that there is a strong positive correlation between ICT integration and organizational performance in State Corporation in Kenya. The changes to the
organisation’s operational practices, business system and ICT infrastructure have improved operational processes and efficiency of the company. Consequently, this has reduced operating and transaction costs, increased turnover and enhanced profitability.

5.4 Recommendations

On financial integration, state corporations in Kenya should support ability and facilitate coping with effectiveness of financial integration (reliability, relevance and timeliness) and performance. Accounting field success need, therefore, to incorporate the competencies associated with learning organization and organization support. The state corporations should sensitize the staff and customers to utilize the capabilities of financial integration.

On human resource management integration, the HR functions should be properly and strategically developed in order to enhance the human capital at different levels including hiring of staff, compensation/remuneration, performance reviews, training and development, separation, succession planning among other aspects. It would be worthwhile to ensure most of the routine and administrative duties are automated or outsourced in order to make way for the HR staff to focus on more strategic initiatives. The automation and outsourcing will enable the HR personnel to operate at both administrative and strategic levels. In order for the HR to be respected for its contribution to the business value, it has to be involved in the overall business strategy. It also must measure itself in a business manner; by ensuring that it aligns itself with other departments’ goals and objectives.

On procurement integration, the study recommends that management in State Corporations in Kenya should ensure that there is an appropriate focus on good practice in procurement and that there is a significant procurement procedure in place to ensure compliance with all relevant
guideline. On delivering services management must address the issue of procurement best practices as these has accrued benefits directly to the bottom line of organizations. The study also recommends that procurement teams in State Corporations should adopt a culture of collaboration and continuous improvement, create and actively use management information to inform strategic procurement decisions, embed best practice and improve organizational processes.

On ICT integration, the study recommends that the current information and communications technologies should be updated, upgraded and seamless integration both internally and externally should be done to improve the State Corporations operations. The integration of ICT in State Corporations would benefit both, service providers and customers bringing together other stakeholders as well, on a common platform. The selection of right information communications technology tool is also crucial to match the customer requirements with service dimensions.

5.5 Suggestion for Further Studies

This study suggests that further studies should be carried out on the effects enterprise resource planning system on organizational performance in the private sector in Kenya
REFERENCES


opportunities or impact? European Accounting Review, 12(1), 201–233.


ADC (2017, September 1) Terms of reference.

KRA(2017, August 2) ERP Implementation Report
APPENDICES

Appendix I: Letter of Introduction

Victor Juma
P.O Box 4215-00100
Nairobi.

Dear Participant,

RE: A LETTER OF INTRODUCTION

I am a Master of Business Administration (MBA) student in the school of Business, Kenyatta University (City campus). As part of the requirement for the award of the degree, I am expected to undertake a research study on ‘Effects of Enterprise Resource Planning System on Organizational Performance in State Corporations in Kenya: A Case of Agricultural Development Corporation.’

The results of the study will be used for academic purposes only and will be treated with a lot of confidentiality. Only summary results will be made public. I am therefore seeking your assistance to fill the questionnaires hereby attached.

Your cooperation will be appreciated.

Yours Faithfully

Victor Juma
MBA Student- Kenyatta University
Appendix II: Questionnaire for the Employees

Instructions:

➢ Please give answers in the spaces provided and tick in the box that matches your response to the questions where applicable.

➢ Please do not write your name or that of your employer anywhere on this questionnaire.

Section A: Demographic Data

1. Indicate your Gender: [ ] Male       Female

2. Indicate your highest level of education

   [ ] Diploma          [ ] Post Graduate Diploma

   [ ] Bachelors Degree [ ] Master’s Degree

3. Indicate your work experience:

   [ ] Less than 5 years    [ ] 5-9 years

   [ ] 10- 15 years        [ ] Above 15 Years

Section B: Financial Integration

4. Does the financial integration influence the organizational performance in state corporations in Kenya? [ ] Yes       [ ] No

To what extent do you agree with the following statements concerning the effects of financial integration on organizational performance in state corporations in Kenya?

Key: Strongly agree(SA)=5, Agree(A)=4, Undecided(U)=3, Disagree(D)=2, and Strongly Disagree(SD)=1
<table>
<thead>
<tr>
<th>Statement</th>
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<tbody>
<tr>
<td>The amount of information has become more important, and the data are updated and relevant.</td>
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<td>There is the use of new management accounting techniques that meet the internal needs of the company.</td>
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<tr>
<td>Financial integration has led to scope, timeliness, aggregation and integration of information</td>
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<tr>
<td>Information system is characterized by the accounting practices used, by the information quality and by the ERP system quality.</td>
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<td>There is a reduction in the time and frequency of preparation of financial statements (monthly, quarterly and annual financial statements)</td>
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5. Based on your opinion, how does financial integration affect organizational performance in state corporations in Kenya?

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Section C: Human Resource Management Integration

6. Does the human resource management integration influence the organizational performance in state corporations in Kenya? [ ] Yes [ ] No

To what extent do you agree with the following statements concerning the effects of human resource management integration on organizational performance in state corporations in Kenya?

Key: Strongly agree(SA)=5, Agree(A)=4, Undecided(U)=3, Disagree(D)=2, and Strongly Disagree(SD)=1

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<tbody>
<tr>
<td>Availability of sufficient HR for the project</td>
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<td>Availability of expertise</td>
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<td>Skilful and competent project team members</td>
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<td>Composition of project teams</td>
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<tr>
<td>Relationship of trust among project team members</td>
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7. Based on your opinion, how does human resource management affect organizational performance in state corporations in Kenya?

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Section D: Procurement Integration

8. Does the procurement integration influence the organizational performance in state corporations in Kenya? [ ] Yes [ ] No

To what extent do you agree with the following statements concerning the effects of procurement integration on organizational performance in state corporations in Kenya?

**Key:** Strongly agree(SA)=5, Agree(A)=4, Undecided(U)=3, Disagree(D)=2, and Strongly Disagree(SD)=1

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<tr>
<td>E-procurement leads to the effective management of its supply chain</td>
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<td>Procurement integration helps the public sector to achieve their objectives and prepare for the uncertainty ahead</td>
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<td>Procurement goals are primarily associated with quality, reduction of financial and technical risks, and protection over competition and integrity in the system</td>
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<td>Procurement process requires focus on driving costs out of the cost base</td>
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<td>ERP systems provide reductions in material requirements uncertainty due to increased potential to benefit from the use of B2B marketplaces for Internet-based procurement</td>
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9. Based on your opinion, how does procurement integration affect organizational performance in state corporations in Kenya?

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Section E: ICT Integration

10. Does ICT integration influence the organizational performance in state corporations in Kenya? [ ] Yes [ ] No

To what extent do you agree with the following statements concerning the effects of procurement integration on organizational performance in state corporations in Kenya?

Key: Strongly agree(SA)=5, Agree(A)=4, Undecided(U)=3, Disagree(D)=2, and Strongly Disagree(SD)=1

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<tr>
<td>Process improvement</td>
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<td>Enhancement of decision making</td>
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<td>Data visibility from location</td>
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<td>Need for common platform</td>
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<td>Cost reduction in planning</td>
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<td>Activity integration in the whole company</td>
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11. Based on your opinion, how does procurement integration affect organizational performance in state corporations in Kenya?

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Section F: Organizational Performance in State Corporations

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<tr>
<td>i  Return on Investment</td>
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<td>ii Return on Equity</td>
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Appendix III: Interview Schedule

i. What are the effects of financial integration on organizational performance in state corporations in Kenya?

ii. What are the effects of human resource management integration on organizational performance in state corporations in Kenya?

iii. What are the effects of procurement integration on organizational performance in state corporations in Kenya?

iv. What are the effects of ICT integration on organizational performance in state corporations in Kenya?