AN EVALUATION OF ENTERPRISE RESOURCE PLANNING (ERP) ON THE PERFORMANCE OF THE NATIONAL PENSION SCHEME AUTHORITY (NAPSA)

BY

CHIMBITA SHAWA KAOMA

A Dissertation Submitted to the Graduate School of Business in Partial Fulfillment of the Requirement for the Award of Master of Science in Operations, Projects & Supply Chain Management

THE UNIVERSITY OF ZAMBIA

LUSAKA

2021

DECLARATION

I, **CHIMBITA SHAWA KAOMA** do hereby declare that this thesis on An evaluation of enterprise resource planning (ERP) on the performance of the national pension scheme authority (NAPSA) is a product of my own work. I have consulted the work of other people and organizations during the production of this document and they have all been duly acknowledged.

Signed:.....Date…….....

COPYRIGHT

APPROVAL

This dissertation by **Chimbita Shawa Kaoma** has been approved as a fulfilment of the requirement for the award of the Degree of Master of Science in Operations,Projects and supply chain Management.

Examiner 1	Signature	Date
……	…….	……
Examiner 2	Signature	Date
…….	……..	……
Examiner 3	Signature	Date
…….	…….	……
Chairperson		
Board of Examiners:	Signature	Date
……	…….	……
Supervisor	Signature	Date
……	…….	……

ABSTRACT

Enterprise Resource Planning (ERP) systems utilization have been limited to few large companies in Zambia and specifically to commercial oriented parastatals, for instance The National pension Scheme Authority which have adopted information systems as a tool to improve efficiency and effectiveness. ERP projects are capital intensive and different companies adopt different methods while implementing ERP systems, they undergo many challenges and overcoming these challenges determine the level of success of the project. The extent of an ERP implementation in an organization is necessary to determine the success of the project. The extent is determined by the number of ERP modules deployed, level of integration with existing systems and collaboration between business units. The study focused on Establishing the relationship between Enterprise Resource Planning (ERP) and organisational performance in the pension industry. Therefore, the objectives were to determine the effect of facility layout on organisational performance, to determine the effects of information system on organisational performance, establish the relationship between Human Resource allocation and organisational performance and to determine the effects of technical support on organisational performance in NAPSA. This was a case study and a questionnaire was used to collect data from middle managerial staff of the National Pension Scheme Authority (NAPSA) and analysis was done using frequency and percentages, means and standard deviations, then regression analysis. The results revealed that, a percentage change in human resource allocation leads to a 30.7% change in organization performance while a percentage change in technical support leads to 18.6% change in organizational performance. A percentage change in Information system, effectiveness, facility layout and innovation leads to a 16.3%, 11.3%, 2.6% and 5.1% or organisation performance respectively.Therefore, the results established that there is a relation between ERP and organizational performance in the national pension scheme Authority.

Key words

Enterprise Resource Planning, Information System, Human Resource Allocation, Technical Support, Organization Performance.

ACKNOWLEDGEMENTS

Firstly, my Gratitude goes to the Almighty God for sustaining me this Far. I wish to express my sincere gratitude and appreciation to all those who assisted me in one way or another during the course of my studies and research work and in particular those mentioned hereafter.

My deep gratitude goes to Eng. Dr. Kasongo Mwale Richard, my research supervisor, for his patient guidance, enthusiastic encouragement, useful critiques of this research work, his invaluable advice and assistance in keeping me going.

I would like to thank most sincerely my Employers, the National Pension Scheme Authority for allowing me time off to attend lessons and allowing me to conduct this research at the institution. My gratitude also go to the respondents at NAPSA who tooktime to provide information , without their cooperation this study would nothave been possible.

Special thanks to the University of Zambia (Graduate School of Business) for providing course materials and the lecturers.

Special thanks to my family and friends for the consistent encouragement and support throughout the period of study.

My course mates (November 2016 cohort) for the encouragement and support, to you I say thank you.

DEDICATION

This study is dedicated to my Lovely Husband Benjamin Kapaya Kaoma, my children, Mukonde Kapaya Kaoma and chikontwe Kaoma for their support,encouragement and patience excised during the period of the years of study and research at the institution.

TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

LIST OF APENDICIES

ACRONYMS AND ABBREVIATIONS

IT	Information Technology
ERP	Enterprise Resource Planning
NAPSA	National Pension Scheme Authority
IS	Information Systems
PR	Public Relations
ROA	Return on Assets
ROI	Return on Investments
ATO	Asset Turn Over
ICT	Information and Communication Technology
POS	Point of Sale
TAM	Technology Acceptance Model
STD	Standard
DEV	Deviation
CFA	Confimatory Factor Analysis
CFI	ConfimatoryFactorIndex

CHAPTER ONE

RESEARCH BACKGROUND

1.1. Introduction

This chapter outlines the background of the study,followed by stating the statement of the problem. The Main and Specific Objectives of the Study, research questions, and significance of the study are also presented here. The scope of the studywill be followed by the delimitation and the structure of the rest of the paper. It will conclude with a chapter summary.

1.2. Background of the Study

Enterprise Resource Planning (ERP) evolved from Manufacturing Requirements Planning (MRP). It is an integrated information system that supports business processes and functions by managing the organization's resources efficiently and effectively. In other words, ERP involves the planning and managing of the organization's resources in the most efficient, productive, and profitable manner (Barker & Frolic, 2003). As a result, ERP systems have drawn increasing attention because they provide a variety of benefits to a business.

Unprecedented competitive pressures and sophisticated customers who demand innovative and speedy solutions characterise the global business environments of today. The cornerstone of success in these fast-changing environments is understanding and optimizing business processes. Global distribution channels, numerous international plant sites, and closely integrated sourcing arrangements have changed the way hundreds of companies do business. A key component of managing these organizations is Information Technology (IT). Over the past few years, many organizations including the National Pension Scheme Authority (NAPSA) have embraced a new class of software systems to integrate processes, enforce data integrity, and better manage resources. In today's global economy, organizations face several challenges, such as fiercer competition, greater market intensity, and more demanding customer expectations. These challenges often lead organizations to implement several precautionary policies or practices designed to lower total costs, shorten throughput times, increase and diversify product choice,

ensure more dependable delivery dates and superior customer service, enhance quality, and professionally organise global demand, supply, and production (Umble & Umble, 2003). The rapid changes in social, economic, and political forces – coupled with daily advances in technology, has resulted in business markets to become more intensely competitive. Therefore, it has become increasingly imperative for Managers to create new and different strategies to maintain market position and meet customer needs in this changing environment. Faced with these challenges, more and more organizations are seeking technologies that have the ability, essentially, to manage every aspect of their business and, at the same time, make their internal processes more efficient and professional. One of the most significant of the technological advances to emerge during the last decade is Enterprise Resource Planning (ERP) systems (Chung & Synder, 1999)

The intensity of managing their functions gets tougher as organizations grows and organizational data increases day-by-day making it difficult to contain. In such a situation, it is very helpful to have an online database that can store and process data faster and better than a group of individual applications. In the absence of such a requirement, the early 1960s saw the formation of Enterprise Resource Planning (ERP) as the joint effort of J.I. Case and IBM. ERP is a process by which an organization manages and integrates the important parts of its business, such as purchasing, planning, marketing, human resource, finance etc. Its aim is to modernize the business process, which requires the reengineering of current business processes (Molnar, Balint & Szabo, G. & Benczur, Andras., 2014)

(Chen, 2014) explains that, what began as an application software for planning and scheduling materials soon became the most complex and largest enterprise system that provides cost effectiveness, improved operations, business growth, and support for business processes across the enterprise. Many organizations have now taken up the use of ERP to manage their procedures, resources, and several other business activities. ERP is a vibrant tool for business success because it permits different business functions and assists in flawless transactions and productions.

ERP systems have gained widespread appeal in the 21st century owing to their “do it all” approach to organizational management, (Gupta & Deepak, 2008). More users are seeking to

link application systems to departmental processes, public entities like the National Pension Scheme Authority (NAPSA) have sought ways to integrate their operations in a bid to cut on operational costs, pay timely Benefits to their clients and collect Member contributions in ‟ real-time''. To meet these requirements, NAPSA has resorted to the use of ERP systems to automate its operations on a standardized platform in line with her strategic plans.

1.2.1. The National Pension Scheme Authority (NAPSA)

The Act of Parliament number 40 of 1996 to administer the National Pension Scheme created the National Pension Scheme Authority (NAPSA) in 2000. NAPSA's mandate includes the registration of members, collection of member contributions, prudent investment of the contributions, and the payment of benefits when they fall due. NAPSA also has the mandate to enforce compliance by employers to the provisions of the Act. NAPSA like many companies has realized that technology plays a key role in today's business environment. Many Organizations greatly rely on computers and software to provide accurate information to manage their business effectively. It is becoming increasingly necessary for all businesses to incorporate information technology solutions to operate successfully. To enhance efficiency in its operations and promote compliance among employers, the National Pension Scheme Authority embarked on a robust digitalization and automation program, which has seen implementation of many Information Technology systems. One of the systems the Authority has implemented is the e-NAPSA, a web-based e-service portal through which employers and employees transact with the Authority. Employers can register employees, file monthly returns, and make payment for statutory contributions. Employees on the other hand can use e-NAPSA to check member and beneficiary details, contributions, and benefits information. The system has enabled the Authority to capture and store clean and authentic data, which is critical for the payment of benefits. (Association of international social security 2020).

The authority is also charged with the role of advising the government, the parliament and other stakeholders on matters touching on the administration of social protection (National pension scheme Authority strategic plan,2016). NAPSA can be conceptualized as the largest Pension scheme in the Republic of Zambia. This is both in terms of the clientele served by the Authority and the geographical coverage of the scheme. It is mandatory for Formal sector employers and Public sector employers to submit their employee contributions to the National Pension Scheme

Authority NAPSA has also adopted information technology on a large scale is by installing Enterprise Resource Planning (ERP) systems to accomplish its business transaction and data processing needs. Enterprise Resource Planning (ERP) systems are software packages that use relational database technology to integrate various units of an organization's information system. NAPSA has noted the ever-changing business and social trends in society, information and communication technologies are drivers and anchors of many businesses. Chung and Snyder, (2000) stated that there was a need to integrate new techniques that led to the development of a rather more integrated ERP system. ERP solution Researchers, (Bajwa et al., 2004), report that ERP facilitates the automation of core business processes, and establishes links with stakeholders including suppliers, customers, and business partners to integrate horizontal and vertical value chains of an organization. ERP systems are being developed constantly and nowadays they primarily include all integrated Information Systems (IS) that can be used across any organization Kumar et al., (2003). Business organizations are under pressure to ensure continuity of strategic operations with fewer resources. Such organizations look to their ERP systems to find efficiencies, improve processes, reduce complexity, integrate systems, and eliminate redundancy.

Kumar et al. further stated that ERP implementations have sometimes failed to achieve the organization's targets and desired outcomes. Maditinos, Chatzoudes & Tsairidis, (2012) in their research propounded that, ERP implementation failure is largely caused by a degree of complexity from massive change and not by the software. Despite ERP, implementation being complex and costly, investments on organizational performance have been inconclusive. The risk factors related to ERP adoption and implementation in NAPSA illustrates various organizational considerations such as organization fit, skill mix, project management and control, software system design, user involvement and training, and technology planning. Empirical evidence reveals that little research attention has been devoted to measuring the impact of ERP in the pension industry. This lacuna of knowledge is unjustifiable because the implementation of ERP is a source of increasing cost and concern to management, especially in the service sector. It is against this background that the goal of this study will be to discover the impact of ERP systems implementation on organizational performance by measuring the impact of ERP on organizational performance in NAPSA.

1.3. Statement of the Problem

Prior to the implementation of ERP in NAPSA, most processes were standalone with discrete systems supporting them. The information flow from one system to another was not automated, requiring lots of manual intervention, tedious long hours, not to mention error-prone human activities. Interaction, communication, collaboration among the employees was not automated. The communication process, in most cases was through electronic mail and memos that needed to be uploaded into the discrete systems supporting these employees. It was common to have redundancy, duplication of roles and responsibilities when using many discrete systems. The order fulfillment cycles were long, lead times long and the customer response times were not encouraging.

ERP in NAPSA came into being in 2015 with the objective of improving individual, teams and organizational performance. ERP was started to achieve what the stand-alone systems could not achieve. Has the current ERP achieved these things?

1.4. Aim of the study

The Aim of the studt was was to identify and investigate the factors influencing the rwlationsdhip between enterprise resource planning and organisation performance in the pension industry.

1.5. Objectives of the Study

Research Objectives are more generally acceptable to the research community as evidence of the researcher's clear sense of purpose and direction (Saunders.M, Lewis.P, & Thornhill.A, 2007). Therefore, this study, whose main objective is to establish the relationship between Enterprise Resource Planning (ERP) and organizational performance in the pension industry was rested on the following.

1.5.1. Specific Objectives

The specific objectives of the study will include the following:

1. To determine the effect facility layout on organizational performance in NAPSA
2. To determine the effects of information system on organizational performance in NAPSA
3. To establish the relationship between Human Resource allocation and organizational performance in NAPSA

4. To determine the effects of technical support on organizational performance in NAPSA

1.6. Research Questions

Research Questions narrow the purpose of specific questions that a researcher seeks to answer (Creswell, 2012) Similary, (Bryman, 2004) perceives research questions as questions that set out what the researcher seeks to study. Thus, this study responded to the following questions:

1.6.1. Main research question

What is the relationship between enterprise resource planning and organisations performance in NAPSA?

1.6.2. Specific research Questions

1. What are the effects of Facility layout on the organizational performance in NAPSA?
2. What are the effects of information system on organizational performance in NAPSA?
3. What is the relationship between Human resource allocation and organizational performance in NAPSA?
4. What has Technical support done to improve Organizational performance in NAPSA?

1.7. Significance of the Study

The study would be important to the NAPSA staff and Management as it will show areas in which the performance needs further improvement. It will also show improved efficiency to service delivery for both internal and external clients.

The study would provide valuable information on how the ERP system can enable customers to interact with the Authority to ensure the service they receive is of good quality.

The study would add more information to the body of knowledge on the effects of ERP on Organization‟ performance. It will also provide a base upon which further studies can be conducted on ERP and Stakeholders‟ performance.

1.8. Scope of the Study

This study focused on assessment of the effect of Enterprise Resource Planning on the performance of the National Pansion Scheme Authority. The four key variables addressed in the study were: Information System, Technical Support, Facilities layout and Human Resource allocatio.Middle management staff built the sample size of this study. These categories were of

interest because of their good understanding of internal information pertinent to the company and knowledgeable background on the research problem

1.9. Delimitation

The respondents for this study were drawn from the middle management of NAPSA at head office despite every worker using the different modules of ERP because this category of employees may be more knowledgeable and objective in their responses.

1.10. Dissertation outline and structure

The Dissertation has six chapters. The first chapter looks at the background of the study where information on ERP is presented. Thereafter it goes on to look at statement of the problem and also presents the objectives of the study and research questions that the study aims to answer. The second chapter presents the review of related literatures and what other scholars have done on ERP. Chapter three looks at the theoretical and conceptual framework that has been adopted for the study. It opens with giving the theories that have been adopted for the study and later presents the conceptual framework which shows the relationship between the variables. The fourth chapter presents the research methodology that has been adopted for the study. Chapter five of the study contains the presentation and discussion of the findings whereas chapter six contains the discussion of the findings, conclusion and recommendations.

1.11. Chapter summary

Chapter one discussed the introduction and background of the study. It further analysed the National Pension Scheme Authority. The problem statement, Main objective and specific objectives were also outlined. The chapter also presented the significance, scope, and delimitation of the study. It concluded by giving the outline of the organization of the rest of the paper.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

This Section lays a foundation of the study by looking at what other researchers have discovered in their various studies on related subjects. The study will formulate a working definition of Enterprise Resource Planning (ERP) and Organizational Performance. The study will also look at experiences in other parts of the world like the USA, Europe, Asia, and Africa.

2.2. Preliminary literature review

Preliminary literature provides identification of major literature that supports and validates the topic of study. It focuses on areas that offer support for new research and offers the researcher an opportunity to analyze and synthesize past research in the context of their present problem. A literature review has therefore being described as a "comprehensive study and interpretation of literature that addresses a specific topic" (Association A. P., 2010)

2.2.1. Defining of Enterprise Resource Planning

Though enterprise resource planning (ERP) has gained some prominence in the information systems (IS) literature over the past few years and is a significant phenomenon in practice, a broadly agreed definition of ERP has not been achieved. Despite there being no broadly agreed definition, authors such as (Mutongwa, 2013) defined ERP as “the technology that provides the unified business function to the organization by integrating the core processes”. Others like (Ross & Vitale, 2000) believe that ERP systems improve the organization context by integrating all the disparate data into a unique database.

2.2.2. Definition of Organizational Performance

Despite there being no universally accepted definition of this concept, (Bashaer, Singh, & Sherine, 2016) referred to ‘‘Organizational performance,” as the performance of a company compared to its goals and objectives. In addition, (Tomal & Jones, 2015) define organizational performance as the actual results or output of an organization as measured against that organization’s intended outputs.

According to (Viara & Alexei, 2012) Organizational performance is defined as a measure of how an organization is managed well and how an organization can deliver the value to their customers and stakeholders.

(Antony & Bhattacharyya, 2010) defined organizational performance as the tool and measurement that is used to assess and evaluate the organization's success to create and deliver value to its internal and external customers. Other writers such as (Koontz, 1993) have urged that organizational performance facilitates an organization to make some pre-determined strategy for making profit and increasing market share, high performance, and productivity.

2.2.3. Performance Objectives

Operational performance objectives are the areas of operational performance that a company tries to improve, in a bid to meet its corporate strategy. After defining its corporate strategy, a company will identify the relevant operational performance objectives to measure and configure the environment, to enable the objectives to be accomplished. (Andy, 2010), Described the five main operational performance objectives as:

2.2.3.1. Speed

Speed gauges how quick an organization can convey its items and creates deals cites. This goal is worried about such issues as the time that it takes to make and procedure at least one results of the organization or the time that it takes to explore another item and create it. Speed is how much a firm presents new items quicker than its rivals (Nahm, 2013). In fierce, fast changing, and profoundly serious markets, items have diminished life cycles. This implies there is a requirement for organizations to decrease the speed of new items that will all the while guarantee their achievement in the market. Early item presentation improves benefit by expanding an item 's deals life and permitting advancement and assembling cost points of interest. Specialists guarantee that prior and quicker item improvement prompts better execution (Griffin, 2002) ERP frameworks improve productivity in interdepartmental correspondence, which spares time, which can be used for distinguishing business development openings. The improvement in process effectiveness and in strategic dynamic just as adjustment to radical condition changes empowers firms to more rapidly grow new items and bring them into the market.

2.2.3.2. Quality

Commonly, quality is considered to gauge how well an item adjusts to specific determinations. In any case, it is more than that, as indicated by Andy N.(2010). It is additionally how attractive the highlights of the item are; the means by which dependable the item is; the way strong it is; the manner by which effectively it tends to be overhauled; how well it plays out its proposed capacity; and, how much the clients have confidence in its worth. These are pertinent proportions of value. In this way, Quality alludes to how much a firm offers an item that makes a higher incentive for its client (Krause, 2007). Firms that can react quicker to client needs with top notch items and imaginative structure, just as phenomenal after-deals administration, assemble client reliability, increment piece of the pie, and eventually accomplish expanded benefits (Mei, 2005). Garvin, (1988) proposes eight elements of value. These are execution, highlights, dependability, conformance, sturdiness, usefulness, style, and saw quality, which are far reaching however hard to set up to gauge. ERP frameworks make it simpler for organizations to check item deformities and issues. ERP frameworks empower firms to distinguish precisely where the plan or creation process issue is happening and to find a way to ensure creation of results of the preeminent quality. This, thusly, will improve deals, consumer loyalty, and benefits.

2.2.3.3 Costs

This target takes a gander at how much variety there is in the unit cost of an item as estimated by changes in an assortment of components, including the volume and the assortment of the items. Items that include a more noteworthy assortment will in general game lower volumes and higher unit expenses and the other way around. At last, this influences the cost of the item, the expenses of creating it, and the benefits to be gotten from that item. From the in advance of referenced, Cost execution alludes to how much a firm can draw in clients fundamentally at a low value (Krause et al., 2007). The best organizations recognize requirements and chances to diminish costs in the supporting zones of their organizations. Lessening managerial costs, manual exertion, and overhead can lead a firm to be increasingly proficient, viable, responsive, and beneficial. Through incorporating business forms across offices onto a solitary endeavor wide data framework, ERP improves cross-utilitarian coordination and expands efficiencies in working together. The immediate and moment profit by executing ERP frameworks is cost decrease over numerous activities. An ERP framework drives down selling, general, and

managerial costs. Improved laborer efficiency decreases extra time and related work just as finance costs. Improved exactness in a creation floor process diminishes the piece and re-work that can exhaust money related assets. Better following of segments, increasingly exact anticipating, and turnover of completed merchandise empower firms to dispense with over the top stock expenses.

Moreover, improved perceivability into every single money related part of creation can help distinguish potential zones for reserve funds and decrease the expense of merchandise sold. By staying away from duplication of data, an ERP framework permits a firm to have open doors for cost decrease and worth expansion exercises, which bring about expanded edges.

2.2.3.4. Variety

Adaptable activities are tasks that can arrange the product offerings to manage different necessities and to likewise alter these product offerings rapidly to new prerequisites. The last is likewise firmly identified with the speed objective. An organization ought to have the option to create diverse quality item assortments and adjust its tasks to suit distinctive economic situations and conveyance plans. Item assortment is how much a firm presents new products as well as administrations with extra highlights and improved execution with a wide contribution. Item assortment means to convey assortment levels that are good with showcase prerequisites and to improve the effect of item and part assortment on the task's execution (Da Silveira, 2008). Item assortment has been reached out in numerous enterprises. Clients want more extensive determinations of items and sensibly evaluated customized arrangements. Organizations separate their items to fulfill client need. Items are worked by client orders, and now and then there are a ton of determinations to be made before the item is completely indicated. Assembling configuration is a necessity for financially savvy fitting. Different items can't be put away in stock without new techniques and approaches. Fixing worldwide rivalry causes to expand item assortment and drives organizations to create different items inside a shorter time (Da Silveira, 2008). Expanded item assortment and quick innovative changes utilize buffering inventories progressively troublesome.

2.2.3.5. Dependability

This operational presentation target gauges how reliable the organization is with regards to convenient conveyance of items to its clients, as per arranged costs and expenses. The item's

capacity to work in an expected manner reliably over a sensible period is additionally a proportion of its constancy.

Conveyance dependability alludes to how much a firm gives items or administrations as indicated by the calendar guaranteed at the hour of offer. Deficiencies and quality issues in provider parts are extra wellsprings of item delay. Key advantages of an ERP framework, for example, upgraded power over segments stock, increasingly exact interest arranging, smooth creation planning, and progressively viable coordination of conveyance channels, empower firms to enhance time conveyance of items, a basic presentation measure for the present makers. Proof shows that solid providers can assist purchasers with cutting preparing time, increment quality, and improve fabricating intensity (Nahm & Koufteros, 2004).

2.3. Determinants of Organizational Performance

Organizational performance measurement plays an important role in organizational growth. Through measuring performance, a firm can identify and track progress against organizational goals, seek opportunities for improvement, and compare performance against both internal and external standards. An organization can also formulate strategic activities through reviewing its performance.

2.3.1. Information Technology

In an examination, directed by Gavrea & Stegerean, (2011) Information innovation was caught as far as a solitary variable, to be specific the degree to which firms have executed a coordinated Enterprise asset arranging (ERP) framework. The emphasis on this variable was because of the expanded enthusiasm on the connection between the ERP framework and authoritative execution. ERP is a standard programming bundle that gives incorporated exchange preparing and access to data, that traverses numerous authoritative units and different business capacities: (Khalid A. E., 2015) One investigation planned for recognizing the connection between the ERP and authoritative presentation has a place with (Dehning & Richardson, 2012). As per these creators, the usage of the ERP framework positively affects hierarchical execution; the extent of its effect is littler following usage, being strengthened after some time. A comparative outcome was acquired by Velcu (2007) who analyzed the effect of executing an ERP framework on the exhibition of eight associations in Finland.

2.3.2. **Facility layout**

According to (Stevenson, 2009) Facility layout is the configuration of departments, work center, and equipment, with emphasis on movement of work (i.e customers or materials) through the system. Heragu, (2006) Defines Facility Layout as the physical arrangement of the workplace, that is, assignment of departments to specific locations on the production floor. Stevenson stated that the basic objective of layout design is to facilitate a smooth flow of work, material and information through the system; (Stevenson, 2009). Heragu further explains that an effective physical arrangement of departments minimizes the movement of personnel and material between departments, and thereby decreasing material handling costs, increasing a systems' efficiency and productivity. Gupta et.al (2004) added that Facility layout also facilitates the entry, exit, and placement of materials and products whilst eliminating bottlenecks. Besides, proper layout design directly and indirectly minimizes the overall cost of products while increasing productivity and business performance.

2.3.3. Information systems

Information Systems (IS) are used in all types of organizations and by people at all organizational levels. The people expect these systems to meet their requirements, translating this in turn into user satisfaction, which is a key factor for the success of IS, thus contributing to the achievement of expected results or performance of the organization, Calderon and Rodríguez, (2010). The success of IS can be measured through different variables. Information System (IS) are one of the most relevant components of the current business environment, offering opportunities of success for companies, because they can collect, process, distribute and share data in a timely and integrated manner Abrego et al., (2017). In this sense, the incorporation of new information and technology systems in a company is justified by the generation of information that contributes to improving the decision-making process and, therefore, competitiveness and organizational performance Medina et al., (2012). Users expect IS to meet their needs, which establishes their satisfaction with them, and this satisfaction of the end user is a key factor for the success of the IS, which will contribute to obtaining the expected benefits Calderón and Rodríguez, (2010); Sá et al., (2017). In this sense, models such as Delone and Mclean (2003), which do several authors reference Ayala, (2012); Calderón and Rodríguez,(2010); Ramírez and García, (2005), measure the success of IS by means of six

variables: Quality of information, Quality of the system, Quality of service, use/usability, Net benefits and User satisfaction. Regarding the latter variable Medina et.al.,(2009) point out that user satisfaction with Information Systems is important because of their potential effects on the organization's goals, quality of life at work and willingness to use these systems.

2.3.4. Human resource allocation

Human Resource (HR) is the most important factor for any organizational success. HR indeed is increasingly noticed as fundamental component of competitive advantage for the modern organization. Employees remain the most valuable assets to gain competitive advantage. However, they are the most difficult asset to manage in any organization Ayanda OJ, Sani AD (2011). Acquaah M. (2004) indicated that Human Resource Management (HRM) practices advance organizational effectiveness and performance by attracting, identifying, and keeping employees with knowledge, skills, and abilities, and acquiring them to behavior in the manner that will support the missions and aims of the organization. In this way, the efficacy of HRM practices depends on how it comprehends the appropriate attitudes and behavior in employees, in addition to its implementation. Stanton P & Nankervis A. (2011) pointed out that organizational performance can be improved, especially through raised productivity and employment elasticity, by ranging entire employees' performance outcomes with wide strategic business and HRM obligations. In this way, the management of remarkable employee's performance, and their unified contributions to whole impressiveness, has possibly become the most significant actual HRM function in all organizations. It is important that a firm embraces HRM practices that make the best use of its employees. This trend has led to an increased interest in the impact of HRM on organizational performance, and several studies have found a favorable relationship between the alleged high-performance work practices and different measures of company performance Huselid et.al (1995).

2.4. Enterprise Resource Planning and Organizational Performance

An audit of writing on the advantages and hazard appraisal of ERP has stayed of key enthusiasm to associations wishing to embrace the framework. Kamhawi (2008) expressed that accomplishing operational efficiencies, for example, upgrades in profitability, streamlining stock and information incorporation abilities are a portion of the prime advantages being looked for by ERP adopters. In exploring selection intentions, Raymond and Uwizeyemungu (2007) deduce in

their investigation of Canadian Small and Medium ventures (SMEs), that the organizations with noteworthy authoritative limits, business reliance on significant clients and inclination of bringing creative items are inside inclined to ERP reception. Then again, the organizations who center around systems administration and associations with different firms are remotely pre-arranged towards reception of ERP. Negatively arranged firms are profiled as having less favorable natural, hierarchical, and mechanical inclinations towards the appropriation of ERP.

2.5. Business performance development with ERP Systems

ERP automates the tasks involved in performing a business process-such as pension processing, which involves taking a claim from a customer, processing it and transmitting payment to the bank. With ERP, when a customer service representative takes a claim form from a customer, he or she has all the information necessary to complete the benefit payment. Everyone else in the process sees the same computer screen and has access to the single database that holds the customer's new claim and all databases of the other customers. When one department finishes with the claim, it is automatically routed via the ERP system to the next department. To find out where the claim is at any point, one need only log into the ERP system and track it down. The claim process moves like a bolt of lightning through the organization, and customers get their pension benefits faster and with fewer errors than before. ERP can apply that same magic to the other major business processes, such as employee benefits or financial reporting.

2.6. Empirical Literature Review

Empirical literature is based on “evidence” that is developed in a systematic, objective, and transparent manner.

2.6.1. Enterprise resource planning and organization performance – global perspective

The relationship between ERP systems and business performance has been widely investigated and diverse results have been reported. From the studies, it can be reported that the influence of ERPs on firm performance is both positive as well as negative. However, many research studies found a positive influence of ERP systems on firm performance and delivered measure changes in business elements.

United Kingdom (UK) and Greece

There are number of studies that have been conducted world over on the subject of Enterprise resource planning and effects on the performance of organisations in various industries. Generally, Corporate Performance and ERP association in the UK context has been given little attention. The empirical research on ERP utilisation and its association with Corporate Performance is not only inconclusive, but only concentrate on a part of performance in the organisation. For instatnce, Elsayed, Ammar, & Mardini, (2015) conducted a study to investigate separately and jointly the impact of utilising Enterprise Resources Planning system (ERPs) and the information disclosure of Segmental Reporting (SR), following the implementation of IFRS-8, on Corporate Performance (CP) in the UK context. The research was drawn on the Financial-Times-Stock-Exchange (FTSE)-100 over the period 2013- 2017 using textual analysis and Compustat, after accounting for endogeneity problems. The authors find generally direct relationships between Corporate Performance indicators, ERP utilisation experience and Segmental Reporting dimensions N. Elsayed et al.(2015).

In another study through an econometric analysis, it was found that ERP implementation affects positively and significantly the profit performance and asset efficiency of Greek firms. controlling for size, liquidity, preadoption profit performance and healthy financial condition, (Voulgaris, 2015) found that non-adopters performed significantly worse than adopters.

Finland

By extending existing research on enterprise resource planning systems, (Juha-Pekka Kallunki, 2010) explored the effects of the enterprise resource adoption on subsequent non-financial and financial performance of a firm. Their empirical analysis was based on 70 Finnish business units whose overall findings demonstrated that formal types of management control systems act as variables mediating the positive effect between enterprise systems adoption and non-financial performance. Kallunki et.al (2010) also predicted and found a significant relationship between non-financial and financial firm performance.

United States of America (USA)

There has not been much research done on the non- financial impact of ERP on organisational perforformance. This can be see form the such studies as the one conducted by (Morris, 2011) where he examined long-term buy-and-hold returns and share prices for a sample of 145 firms

from 33 industry groups that implemented ERP systems from 1994 to 2003. The results provide evidence that firms implementing ERP systems achieve abnormal returns for the first five years after implementation. Price regression models support these results finding that share prices are positively associated with ERP implementation. Similarly, Nikolaou & Bhattacharya (2006) investigated the impact of Post-ERP implementation changes on organizational long-run financial performance and concluded that ERP adopting firms who were enhancing their existing ERP systems had better financial performance compared to firms not enhancing or upgrading their existing ERP systems.

Canada

In a study of Canadian small and Medium endeavors, Raymond & Uwizeyemungu (2007), concluded that ,the associations with critical various levelled limits, business dependence on noteworthy customers and penchant of bringing inventive things are inside slanted to ERP choice, however those associations which are revolved around frameworks organization and relationship with various firms are remotely pre-masterminded towards gathering of ERP Raymond L et.al (2007)

Asia

The empirical results in the study in china by (Lu Zhang, 2012) showed that in the first three years after ERP implementation, there was no significant change in Tobin's Q; however, in the fourth year, Tobin's Q increased significantly. These results support the idea that, as a strategic investment, ERP systems take a long time to implement, which means that potential benefits cannot be acquired in the short-term. Lu,Z et.al (2012) further urged that, after ERP implementation, employees must engage in a new learning cycle and the system needs to become accustomed to the firm's business processes.

To investigate the economic issue of whether or not implementation of ERP system contributes to Korean P/C insurers' efficiency and performance, Jonghyun P., Jin P., (2015) used DEA, to measure efficiencies of the insurers and found a strong positive association between ERP implementation and the insurers' efficiency and profitability, which is consistent with extant studies. In addition, Jonghyun, P. et al. also documented the time lag effect of ERP on insurers' efficiency and performance. Their findings validate previous findings and strongly support the positive impact of ERP on a firm's efficiency and performance, especially when a firm's operation measured as product diversification is less complicated. This could have been a result

from the fact that they investigated five to six years after ERP implementation, and it took longer time to implement ERP system to manage more diversified and complicated organization.

(Shatat, 2012) in his study on the aims to improve supply chain management performance through the successful usage of ERP system. His findings implied that the successful implementation and the effective usage of ERP system can contribute toward enhancing supply chain management performance in many ways such as, integration of internal business processes, enhancement of information flow among different departments inside the company, improvement of the company's relationships and collaboration with outsourcing suppliers, customers, and supply chain partners.

Australia

An article done in Australia by (Bernhard W., Peter B., Zoltan P. M.and Maria-Luise O., 2006) provided further insights into the impacts of several aspects of ERP adoption and ERP uses on firm performance and business process performance. The Authors aimed at challenging the exiting claims of ERP vendors with regards to the benefits of their products. Bernhard W. et.al (2006) used ERP adoption, ERP history and ERP extension (with a supply chain management system) as independent variables and the dependent variable was KPIs for supply chain performance and firm performance. The findings of their study contradicted claims of ERP vendors and found no significant performance difference between ERP adaptors and non - adaptors at either supply chain level or overall firm level.

To Better understand the extent to which ERP systems fulfil their role in target organizations, (N, Nawaz M; K, Channakeshavalu, 2013) shifted the emphasis of their research from just the technical aspect and brought in the human organization and technological aspects together.

2.6.2. Enterprise resource planning and organization performance case- African Perspective

There is obviously growing attention to the subject of ERP systems and organisation performance in the literature; however, very few studies have investigated ERP system in Africa. Very few countries have investigated the relationship between ERP and organisation performance.

Egypt

Ahmed A. Elragal and Ayman M. Al-Serafi (2011) led an investigation of Chemical organization in Egypt where the outcomes showed that ERP usage has helped Chem Co improve its business execution. It was obvious from the reactions by the SMEs supervisors that their involvement in the ERP was for the most part positive. Huge numbers of the advantages found in past research, have been accomplished on account of Chem Co Egypt including: improved creation lead times, diminished time and routine to accomplish work, better data accessibility, better data quality, improved business-wide mix, improved creation capacities, decreased blunders in transportation, improved client assistance and improved outside correspondence. (Elragal, 2011)

Kenya

Elyas and Salome (2012) researched on the effect of ERP cycle time on supply performance of oil products in oil industry in Kenya and concluded that ERP systems contribute to supply chain management particularly in technical areas such as cycle time, standardization, transparency and globalization. They stated that ERP integrates both internal and external flows used by the organization and drives the flow of information between all internal business functions while managing connections to outside stakeholders. They further concluded that for firms to update staff payments within shortest time possible, enhance faster transaction between suppliers and the firm, easily retrace complaints of irregular products and improve cash management there was a need to implement the ERP system.

Nigeria

(Adejare Yusuff Aremu, 2020) investigated the impacts of ERP system adoption on the relationship between performance of medium enterprises (PME) and communication process (CP), organization structure (OS), technological change (TC), and technology infrastructure support (TIS) and moderated by top management support. The findings show that CP, OS, TC, TIS influenced the performance of medium enterprises in the adoption of ERP. The findings also confirmed that the top management support plays an important role in moderating the relationship between ERP and PME.

Ghana

Owusu-Mainu R, Twum AD, Konadu A, Ohene-Amoako D (2019) concluded in their study of Kumasi Metropolitan that the direct and indirect benefits (thus effective customer care services, effective and sound sales and distribution mechanisms, easily and timely accessibility to corporate data, effective inventory control management and increase in profitability rate), efficient in terms of errors in data entry, efficient in business operation, difficult to alter information on the system, etc. derived from the implementation of ERP systems far outweigh the challenges that come with ERP systems.

2.6.3. Enterprise resource planning and organization performance case- SADC Perspective

In the SADCC region, south Africa is the only country that has conducted studies on the subject of ERP and organisation performance despite there being 16 contries affiliated to the regional body.

South Africa

Findings by (Ignatio M., 2016) revealed that ERP system improved the employee efficiency as data and information could now be captured and updated at one point with no duplication of effort which could waste resources. Ignatio M.et al further concluded that Operational efficiency resulted from greatly improved communication and corporation from all departments. Online updates on inventory levels enabled informed decisions to meet the products' delivery dates.

(Mushavhanamadi K., 2013) in their study of the Impact of Enterprise Resource Planning System (ERP) in a South African Company, found that ERP permits for information sharing assisting in organizing, codifying, and standardizing the business process. They further stated that ERP handles the different functions of a company like manufacturing, logistics, distribution, inventory, shipping invoicing and accounting.

(Hart, 2014) evaluated the impact of ERP systems on organizational performance over the three year post- 'go-live' period in selected South African firms. Consolidating the benefit results of the market research revealed that performance improvements across all four perspectives of the ERP time-based Balance Score Card, with overall organizational performance showing a 'medium' performance improvement. These findings support the research of (Shang, 2002) and (Chand, 2005) However, the research of (Wieder, 2006) attributes performance improvements to

enabling systems instead of ERP systems. As all survey respondents indicated the presence of at least three enabling systems in their organizations, there is a chance that the benefits attributed solely to the ERP systems have resulted (at least in part) from the enabling systems

2.6.4. Enterprise resource planning and organization performance case- Zambian Perspective

Zambia like many other countries in Africa has not been spared from the problem of lack of information on the subject of ERP and organisation performance. The studies conducted on the subject of ERP Investigation was on the Challenges of Enterprise Resource Planning Systems Implementation in Zambia.

In an examination directed by Mkokweza M. and Phiri J. (2016) on the reception of ERP in a biggest power utility organization in Zambia uncovered that the ERP framework has demonstrated to improve effectiveness, time the executives and responsibility in the association. Further workers have picked up ICT aptitudes during the time spent figuring out how to utilize the framework. All the respondents agreed that the framework was progressively effective and supportive in the practical of exchanges handling for the association. The ERP framework has coordinated various modules that were remain solitary already, making it simpler for work to be done in the most productive way by various divisions. In that capacity, it was expected that most tasks and exercises were currently finished and accomplished inside the time period. Time the board is a key part in any application, and the ERP framework has helped the association to run effectively and accomplish its objectives in sensible time. The review trail of exercises and straightforwardness during the time spent raising issues has improved responsibility and urge a few people to deal with thing on schedule. The presentation of ERP framework in the association has helped clients to increase new ICT aptitudes and be quick to learn new innovations and applications; this has required even late adopters to be keen on getting fundamental ICT abilities and figuring out how to utilize the framework.

In a comparable report, Mkokweza and Phiri presumed that the automation of business forms in a mobile telecommunication company realized proficiency as it made work simpler and quicker for the clients, decreasing on time taken to finish an exchange and creating reports for decision making in great time.

One of the components crediting to the smooth tasks of the framework was far reaching preparing. Framework direction was required for everybody joining the association, and boost trainings were energized. This made it simpler for operational level staff to utilize the POS module with much exactness and insignificant blunder, Mkokweza M and Phiri J (2016).

2.7. Emerging Issues

From a critical review of the literature on this topic it is concluded that empirical studies have been conducted concerning the impact of ERP systems on business performance with mixed results. Some of these studies provided evidence of positive impact of EPR systems on some measures of business performance; however, other studies did not find a statistically significant effect of ERP systems on important measures of business performance. The principal benefits that can arise from ERP system are linked to expected gains in the innovation and effectiveness of business processes that come about with the availability of more accurate and timely information. ERP offers integration of business functions and can reduce data collection and processing duplication efforts. Management control as well as operational control can be improved by making sure that all relevant data are available to (the predetermined) user groups and this can improve the speed of decision-making and facilitate communication between relevant users. Barriers between business functions and departments can be lowered and links with suppliers and customers can be significantly strengthened (Gupta, 2000; Liautaud and Hammond, 2001; Ptak, 2000; O'Connor and Dodd, 2000). From a management perspective, ERP systems offer improvements in monitoring and control functions, better coordination and cooperation between user groups and stakeholders inside and outside the organization.

2.8. Knowledge Gap

Prior studies on Enterprise Resource Planning mainly focus on the adoption phase with little analysis conducted on these systems post-implementation Cereola, Wier, & Norman, (2012). Booth et. al (2008) suggested that there is a lack of an analytic framework to identify measures for evaluating the benefits of ERP systems post-implementation. Existing literature falls short of establishing a business case for ERP adoption by Pension industries. Currently there is no framework based on academic studies offering reliable metrics to determine impacts on organizational performance. Existing literature lacks analytical studies on ERP's impact on

continuous improvement in pension and insurance industry. There is no evidence that successful firms earned any performance-improvements due to quality management programs York & Miree, (2004).

2.9. Chapter Summary

Although literature seemed to agree with the hypothesis that ERP improves performance, there is still some concerns expressed by some scholars that there might be reverse causality between pre- and post- implementation with a drop in some performance indicators (Hitt et al., 2002). Other researchers tried to give reasons for the reverse causality, For example, Fuß et al. (2007) who suggested that service-sector business (like insurance companies and Pension schemes) adopting ERP usually anticipate and utilize ERP systems for effectiveness more commonly than efficiency, therefore cost reductions and productivity might not be as important for them as better quality business processes and better information quality. For such ERP adopters making efficiency and productivity measurements is inaccurate and can have negative causality.The following chaper looks at the conceptual framework.

CHAPTER THREE

THEORATICAL AND CONCEPTUAL FRAMEWORK

3.1. Introduction

A research that grounds it firmly in theoretical constructs is known as the theoretical and conceptual framework. The overall aim of the two frameworks is to make research findings more meaningful, acceptable to the theoretical constructs in the research field and ensures generalizability. They assist in stimulating research while ensuring the extension of knowledge by providing both direction and impetus to the research inquiry. They also enhance the empiricism and rigor of a research. Thus, it is no exaggeration for Imenda (2014) to say that both the theoretical and conceptual frameworks give life to a research.

3.2. Theoretical Framework

Theories are formulated to explain, predict, and understand phenomena and, in many cases, to challenge and extend existing knowledge within the limits of critical bounding assumptions. The theoretical framework introduces and describes the theory that explains why the research problem under study exists. Therefore, the researcher will adopt the Technology Acceptance model (TAM) and the Information systems success Theory (IS) to ground the study.

3.2.1. Technology Acceptance Model

TAM is a widely applied IS model to explain end user adoption of IT. It is a powerful model of user acceptance of computer technology ((Igbaria, 1995) .Developed by Davis (1989) and Davis & Warshaw (1992) TAM was used to examine the acceptance of ERP in Organizations. The model states that the user's actual use of a technology system is influenced directly or indirectly by one's behavioral intensions, attitude, perceived usefulness of the system, and the perceived use of the system.

The linkage between performance and the way in which the systems are adopted is the key elements of TAM (Bagozzi, 2007) . Bagozzi stated that the cost of a lack of acceptance of new systems has also been mentioned as one of the most significant reasons for a need for managers to be careful about the way in which they deal with the acceptance of new technologies, as the possible economic ramifications of the failure of technological systems can be significant. The negative impact of the failure of systems can be significant, especially in the modern era as

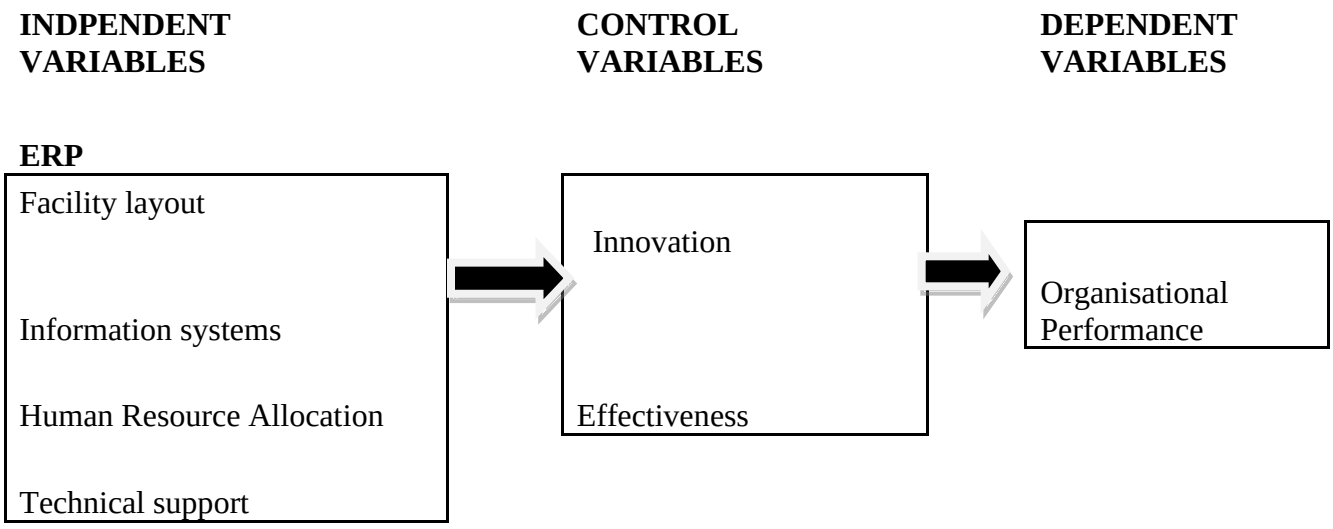
organizations are increasingly using information systems to gain and sustain a competitive advantage, and as the systems are becoming the integral part of the information systems in the organization. These issues are important for managers, as they want to ensure that they are able to develop a deep understanding of the needs of their employees, and ensure that they put into practice those systems, which motivate the employees, and can therefore improve the performance of the organization (Bagozzi, 2007).

3.2.2. Information systems success Theory

Another related but different stream of research on IT was a theoretical framework of information systems (IS) success done by Delone and McLean (1992). They stated that IS comprised many dimensions including systems Quality, information quality, use and user satisfaction which led to individual and ultimately organizational impact. Later, this framework was extended to include service quality as a fifth form of IS success and the organizational impact was broadened to include "net benefits" as an outcome Delone and McLean (2003). However, a more recent review of IS success model literature indicated that the dimension of service quality received no attention in 34 journals from 2003 to 2007 Urbach et al., (2008). The dominant paradigm of recent IS success research focuses on user evaluations via surveys regarding the impact of an information system resulting in a structural equation model Urbach et al., (2009)

3.3. Conceptual framework

According to Kothari, (2004), a conceptual framework is a tool researcher use to guide their inquiry; it is a set of ideas used to structure the research, a sort of a map. It is the researcher's own position on the problem and gives direction to the study. It may be an adaptation of a model used in a previous study, with modifications to suit the inquiry. Aside from showing the direction of the study, through the conceptual framework, the researcher can be able to show the relationships of the different constructs that he wants to investigate. The following conceptual framework will guide the study.



Source: Author's own

Figure 1 conceptual framework

The conceptual framework shows the relationship between variables that affect Organizational performance in the National Pension Scheme Authority (NAPSA).

The researcher believes that there is a cause effect relationship between the independent variables,control variables and the dependent variable. Cause–effect relationships frequently include several independent variables that affect the dependent variable (Welman, 1999)

A variable can be defined as anything that has a quantity or quality that varies. The dependent variable is the variable a researcher has interest in.This study therefore, assumed Organisation performance as the dependant variable. The independent variable on ther other hand is believed to affect the dependent variable and in this case they have been identified as: Facility layout;Information systems; Human Resource allocation and Technical support. The control variable helps to explain the relationship between two variables (dependent and independent). The independent variable usually hypothesized to be the cause of the dependent variable. The control variables were identified as innovation and effectiveness.

3.4. Operationalization of the conceptual framework

Operationalization is the process by which a researcher precisely specifies how a concept will be measured. It involves developing specific research definitions that will bring about empirical

observations representing those concepts in the real world. Operationalisation works by recognising specific indicators that represent the ideas we are going to research. (Kimmel, 2008)

Facility layout refers to the arrangement of machines, departments, workstations, storage areas, aisles, and common areas within an existing or proposed facility. Layouts have farreaching implications for the quality, productivity, and competitiveness of a firm. Layout decisions significantly affect how efficiently workers can do their jobs, how fast a customer can be served, how difficult it is to automate a system, and how responsive the system can be to changes in service design and demand volume.

Information Systems refers to an integration of hardware, software, human skills and management processes that enhance IS performance to maximize productivity. Furthermore, Information systems combine people, hardware, software, data and networks to perform input, processing, output and control activates (O'Brien, 2004).

Human resource allocation refers to the basic human requirements for the successful use of ERP in Authority concentrating on the labor allocation in terms of knowledge, profiles and roles of the system users, and the ways of improving those. Focusing on the human competences has a direct impact on the organizational performance.

Technical Support is reference given to the quality of the technical support that system users receive from the IS/ERP department and the IT technical support. This can be measured in terms of its reliability, assurance, and responsiveness. Reliability refers to the ability to perform the promised service dependably and accurately. Assurance refers to knowledge and courtesy of employees and their ability to inspire trust and confidence. Responsiveness refers to the willingness of the IT staff to help internal customers and provide prompt services.

Innovation is the process of creating new ideas and putting them into practice, as the best organizations are the one which reaches creative ideas and then put it in practice. The innovation is to reach what is new in the form of orderly development or practical application of a new idea, which means that innovation, does not stop on the threshold of the new idea, but it crosses to the practical application in achieving the objectives of the organization in the market.

Effectiveness examines how well an Information system meets its goals from the viewpoint of a user who interacts with the system on a regular basis. Four measures used for estimating operational effectiveness: Frequency of use, Nature of use, Ease of use and User satisfaction. If a system is being frequently used, it is likely to be more effective based on the perspective of its end user.

Organizational performance involves analyzing a company's performance against its objectives and goals. In other words, organizational performance comprises real results or outputs compared with intended outputs.

3.5. Chapter Summary

This chapter presented the theoretical and conceptual framework that was adopted for the study. The operationalisation of the conceptual framework was discussed and the variables used in the study were identified and explained .The next chapter presents the research methology.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1. Introduction

The purpose of this chapter is to provide information regarding the research context and philosophical assumptions underpinning the study. It also presents the methods and processes that the writer followed to conduct the study.

4.2. Research philosophy

A typical starting point of the research process involves determing its philosophical stance using a research paradigm. A paradigm is defined as a set of basic and taken- for -granted assumptions which underwrites the frame of reference, mode of theorizing and ways of working in which a group operates (Burrel and Morgan, 1979). The research paradigm shapes the researcher's methodological approach used to investigate the research question.

A research philosophy can be viewed using two different ways i.e. Ontology and epistemology.

4.2.1 Ontology

In business research, Ontology can be defined as "the science or study of being"(Blaikie, 2010) and it deals with the nature of reality. Ontology is a system of belief that reflects an interpretation by an individual about what constitutes a fact. Ontology is divided into two main persperctives i.e. Objectivism (or Postivisim) and subjective. Objectivism "is an ontological position that asserts that social phenomena and their meanings have an existence that is independent of social actors" (Bryman, 2012). On the contrary, subjectivism (also known as constructionism or interpretivism) perceives that social phenomena are created from the perceptions and consequent actions of those social actors concerned with their existence. Formally, constructionism can be defined as "ontological position which asserts that social phenomena and their meanings are continually being accomplished by social actors"(Bryman,2012)

The study employed a postivist approach since the role of the researcher was limited to data collection and interpretation in an objective manner.

4.2.2 Epistemology

Epistemology in research is defined as a branch of philosophy that deals with the sources of knowledge. It is concerned with possibilities, nature, sources and limitations of knowledge in the field of study. In other words, epistemology can be branded as the study of the criteria by which the researcher classifies what does and does not constitute the knowledge (Hallebone, 2009). According to Tennis (2009)Epistemology is the claim on what knowledge is valid in research, and therefore what constitutes acceptable sources of evidence (presenting that knowledge) and acceptable end results of knowledge (findings).

The interpretation of the results results was based on the results collected. These results presented were as a result of the methods used in Data collection methods and the target sample of respondents for the study. Probably if a different method was used in the collection of the Data, different results could have been archieved.

4.2.3 Axiology

Axiology refers to the role of values and ethics within the research process (Saunders,2012). This study is approached from a positivism philosophy point of view. According to Ashley and Orenstein (2005), the positivism school of thought is grounded on the philosophy that the researcher and the subjects were independent; didn't influence each other or outcome of the results.

4.3. Research Design

The essentials of research design have been summarizes by (Cooper and Schindler 2003) as an activity and a time-based plan; always based on the research question; guides the selection of sources and types of information; framework for specifying the relationship among the study variables and outlines the procedures for every research. The research design is therefore the blueprint that enables the investigator to come up with solutions to problems and guides in the various stages of research.

This study employed both quantitative and qualitative research designs for collecting, analyzing, interpreting, and reporting data.Qualitative aspect was used in describing the data generated in the research and the design and use of the questionnaire to generate data. Also the size of the sample justifies the use of qualitative research design. This study employed this design so as to

gain insights into the relationships existing between the variables. The data generated through qualitative approach was analyzed quantitatively through the use of statistics to show the relationship in the data.

4.4. The target Population

Mudenda and Mudenda (1999) indicated that target population should be explicitly and unequivocally defined, otherwise statements about the target population after the analysis of data will not be trustworthy. The target population of this study included middle managers of all departments of the National Pension Scheme Authority, which translated in Fifty-Eight (58) respondents.

4.5. Sample size

Since the study's unit of analysis is at the organization or firm level, the researcher sampled viewpoints of key organizational informants, including mid-level executives from both the business and technological (IT) part of the organization. These groups of respondents have been among the most knowledgeable informants regarding ERP systems success evaluations in adopting organizations; Gable et al., (2003); Sedera et al., (2003a, b). Thus, the perspective being presented in this will exclude junior organizational employees.

A census is ideal for small populations of 200 or less as it eliminates sampling error and provides data on all the individuals in the population. (Isreal, 2003). The researcher employed a census because the population of interest was small i.e 58 junior manaerial staff.

4.6. Sampling Techniques

The sampling technique that the researcher used in the study was nonprobability Sampling. According to (YIN, 2003),Nonprobability sampling is often associated with case study research design. Case studies tend to focus on small samples and are intended to examine a real life phenomenon, not to make statistical inferences in relation to the wider population .A sample of participants or cases does not need to be representative, or random, but a clear rationale is needed for the inclusion of some cases or individuals rather than others.

4.7. Research Instrument

The research instruments that was used in this study is the questionnaire. Data was collected using a questionnaire distributed among Middle level managers of all the departments in the Authority. The researcher developed the questionnaire based on the research questions. The questionnaires consisted of both open and closed ended questions to be answered by the respondents. Open-ended questions sought to achieve in-depth responses from the subjects while closed ended responses remained controlled for the sake of analysis.

4.8. Data Collection Methods

Data collection was done using a structured and semi-structured questionnaire. The structured questionnaire gives uniformity on the questions and likewise compatibility of the responses where the respondent indicates views on a scale of 1 to 5 in the form of a Likert. The questionnaire is structured into Part A that collected demographic data to find out about the respondent profile and information about company, Part B sought to establish the impact of ERP on the performance of the National pension scheme Authority (NAPSA) Data was gathered from users in all departments which included , ICT, administration, finance, investments, Human Resources, projects, Contributions and Benefits. The procurement department was not included because a pilot was done there. The questionnaires were distributed via electronic mail using google forms. Techniques to minimize nonresponse included email follow up and mail prompting outlining the importance of replying.

4.9. Data Analysis Methods

After the data was collected, it was scrutinized, keyed, and analysed. Demographic data and data on organizational performance was analysed using was analysed using frequency and percentage then presented in form of tables and charts. As for the relationship of impact of ERP to organizational performance, regression analysis was used. The regression model assumed the following equation:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$$

Where: Y = Dependent variable (Organizational Performance)

β_0 = Constant

$\beta_1 - \beta_6$ = Coefficients

ε = Error

X_1= Human Resource Allocation

X_2= Technical support

X_3= Information System

X_4= Effectiveness

X_5= Facility Layout

X_6= Innovation

4.10. Reliability and Validity

Reliability is the consistency of a set of measurement items while validity indicates that the instrument is testing what it should (Cronbach, 1951). Validity was used to check whether the questionnaire was measuring what it purported to measure (Bryman and Cramer, 1997).

Pilot study was done as stated by Saunders et al. (2009) and this helped to test the survey instrument, it helped to validate the questions, remove errors of omission and commission, rectify mistakes and check the general structure of the questionnaire. This was done before proceeding to collect the actual data for analysis. Hence a pilot study was done on 10 employees in NAPSA. The intention of carrying out a pilot study outside the study area was to avoid affecting the study sample. The rule of thumb is that 1% of the sample should constitute the pilot test (Cooper and Schilder, 2011).

The pilot study was done to pre-test the questionnaire prior to the main data collection exercise with a view to check for errors and test the tools for reliability. Cronbach alpha, which is a measure of internal consistency, was used to test the internal reliability of the measurement instrument.

The higher the score, the more reliable the generated scale is. (Nunnaly, 1978) has indicated 0.7 to be an acceptable reliability thus it was considered adequate for this study. Based on the feedback from the pilot test, the questionnaire was modified and a final one developed.

Table 1 Validity and composite reliability

	Human Resource Allocation	Technical Support	Information System	Effectiveness	Facility Layout	Innovation
Number of Items	5	5	5	5	5	5
Cronbach's Alpha	0.83	0.79	0.84	0.82	0.79	0.85
Composite Reliability	0.87	0.84	0.93	0.92	0.87	0.92

4.11. Ethical Considerations

Ethics refers to the branch of philosophy which deals with human conduct in respect to the rightness or wrongness of certain actions and to the badness or goodness of the motives and ends of such actions", (Shumbayawonda, 2011)

The word informed consent explicitly emphasizes that the subjects of the research must have adequate knowledge (Fadden & Beauchamp, 1986; Israel & Hay, 2006:61).In an attempt to produce quality and reliable data, the researcher explained the importance of the study to all the participants so that respondents would know the main purpose of the study. This gave the respondents courage to answer the questions as honest as possible which helped in depicting the true picture of how introduction of the ERP system has affected employees performance among NAPSA employees.

(Mugenda, 2003) Explains that anonymity is to ensure that secrets are kept by not identifying the ethnic or cultural background of respondents, refrain from referring to them by their names or divulging any other sensitive information about a participant.

Furthermore, the researcher made sure that all the information that was collected was kept confidential and anonymized by not collecting bio data such as name of respodents,Gender and age.

4.12. Chapter Summary

This chapter gave a detailed description of the research design employed to provide the overall strategy for answering the research question for this study. It highlighted the tools and techniques used in data collection, and statistical measures used. The next chapter builds up on this basis, analyzing and presenting in a systematic form the findings of this study. The answers of the research questions and attainment of primary objectives are expected to be derived from these findings.

CHAPTER FIVE

PRESENTATION, ANALYSIS AND THE FINDINGS

5.1. Introduction

The study sought to find the relationship between enterprise resource planning and Organisational performance in the National Pension Scheme Authority (NAPSA). This chapter presents the findings, the interpretation and discussion of the study findings.

5.2. Basic Information

The questionnaire was divided into two parts;Part A consisted basic information about the department where the respondent work, the module of the ERP used and the year in which the ERP module was implemented. Part B of the questionnaire consisted of questions relating to ERP on organisation performance.

5.2.1. Response rate

Out of the 58 questionaires distributed, only 37 were successfully completed. This response rate translates to 63.79% of the total number of respondents. Mugenda and Mugenda (2003) postulates that, a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a rate of 70% and over is excellent. Based on this assertion, the response rate was very good.

Table 2 Response Rate

	Frequency	**Percent**
Responses	37	63.79
Non Response	21	36.21
Total	**58**	**100**

5.2.2. Department Worked

In order to understand the effects of ERP, respondents were first asked the department where they work and the responses that were obtained are presented in the table

Table 3 Department worked

	Frequency	Percent
Administration	1	2.7
Audit	2	5.4
Contributions & Benefits	14	37.8
Finance	5	13.5
Human Resources	4	10.8
Investments	1	2.7
Information Technology	4	10.8
Legal	2	5.4
Projects	2	5.4
Risk & Assurance	1	2.7
Strategy	1	2.7
Total	**37**	**100.0**

It can be seen from the table above that out of the 37 sampled respondents, the majority of the respondents amounting to 14 representing 37.8% of the responses responded that they work in the contributions and benefits department, Finance department had 5 (13.5%) respondents, Human Resources and Information Technology department had 4 (10.8%) respondents each while Audit, Legal and Projects department had 2 (5.4%) respondents each and Administration, Investment, Strategy and Risk and Assurance had 1 (2.7%) respondent each. This information can be further presented in percent form in the figure below.

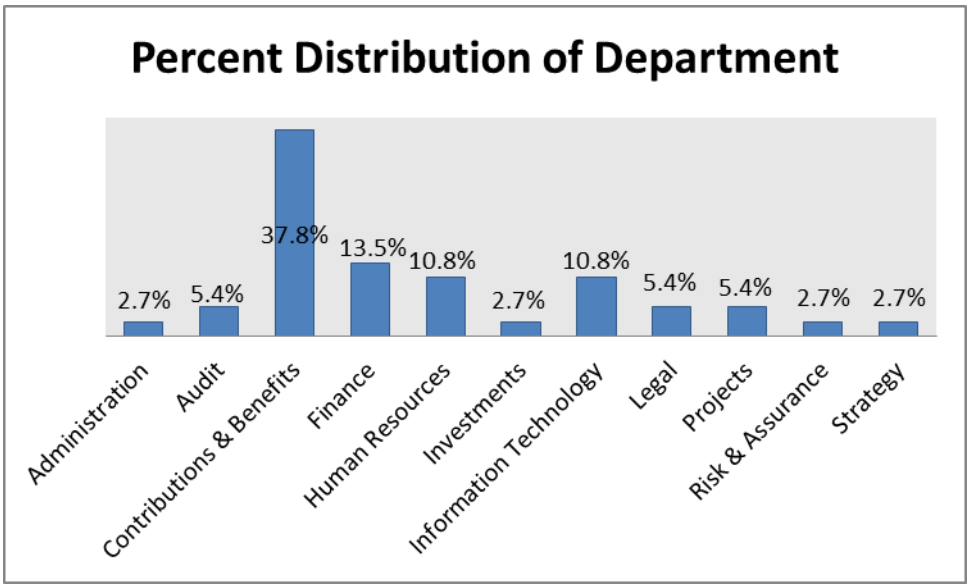


Figure 2 Department Worked

5.2.3. ERP type used

Respondents were also asked to give the name of the module that they use and the responses that were obtained from this question are presented in the table below.

Table 4 ERP Type used

	Frequency	Percent
ORACLE	37	100.0

It can be seen from the table that all the sampled respondents use Oracle.

5.2.4. Module used

Respondents were also asked to state the type of module that they use in the ERP and the responses that were obtained from this question are presented in the table below.

Table 5 Module of ERP Used

	Frequency	Percent
HR & Payroll	9	24.3
HR & Payroll, Oracle Financials	11	29.7
HR & Payroll, Oracle Financials, Risk and Project Management	10	27.0
HR & Payroll, Oracle Financials, Pension Administration	7	18.9
Total	**37**	**100.0**

It can be seen from the table above that out of the 37 sampled respondents; all the respondents use the HR and Payroll (E.S.S, I-Expense, Payroll) module. However in additional to this module, some respondents use additional modules and 11 (29.9%) of the respondents use Oracle Financials (Fixed assets, Accounts payable, Accounts Receivable, Cash Management and General ledger) in additional to the HR and Payroll module, 10 (27%) of the respondents use Oracle financials (Fixed assets, Accounts payable, Accounts Receivable, Cash Management and General ledger), Risk (GRMC, CCG, TCG, ACG and PCG) and Project management in additional to the HR and Payroll module while 7 (18.9%) of the respondents use Oracle financials (Fixed assets, Accounts payable, Accounts Receivable, Cash Management and General ledger) and Pension Administration in additional to the HR and Payroll module. This information is further presented in percent form in the figure below.

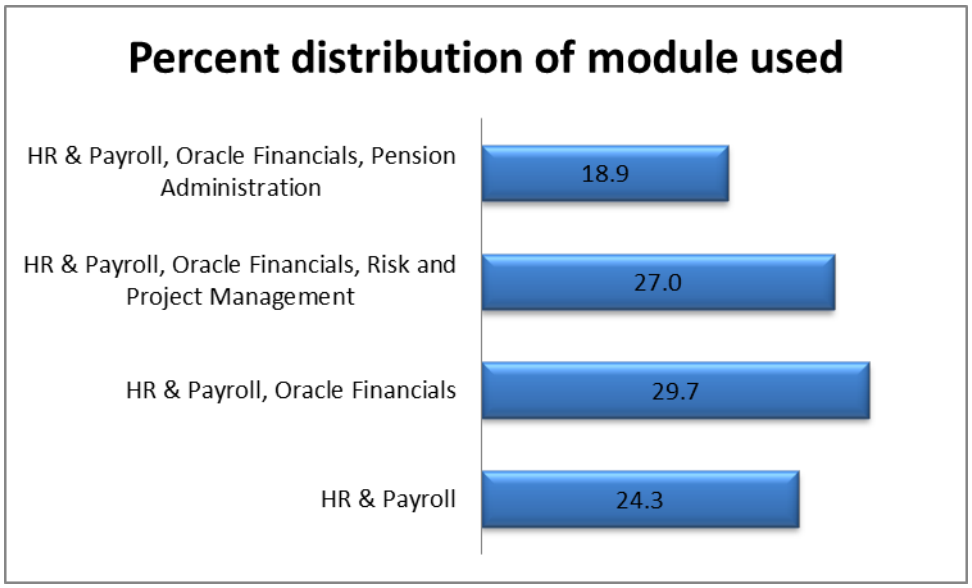


Figure 3 Percent distribution of module used

5.2 5. Change in performance

Respondents were also asked a question on whether the introduction the ERP system in their department had improved their performance in the department or not. The responses that were obtained from this question are presented in the table below.

Table 6 Change in performance

	Frequency	**Percent**
Yes	33	89.2
No	4	10.8
Total	**37**	**100.0**

It can be seen from the table above that out of the 37 sampled respondents, the majority of the respondents 33 representing 89.2 percent of the respondents responded that the introduction of the ERP system in their department improved their performance in the department while 4 (10.8%) of the respondents responded that the introduction of the ERP system did not have any

effect on their work. This information can be further presented in percent form in the figure below.

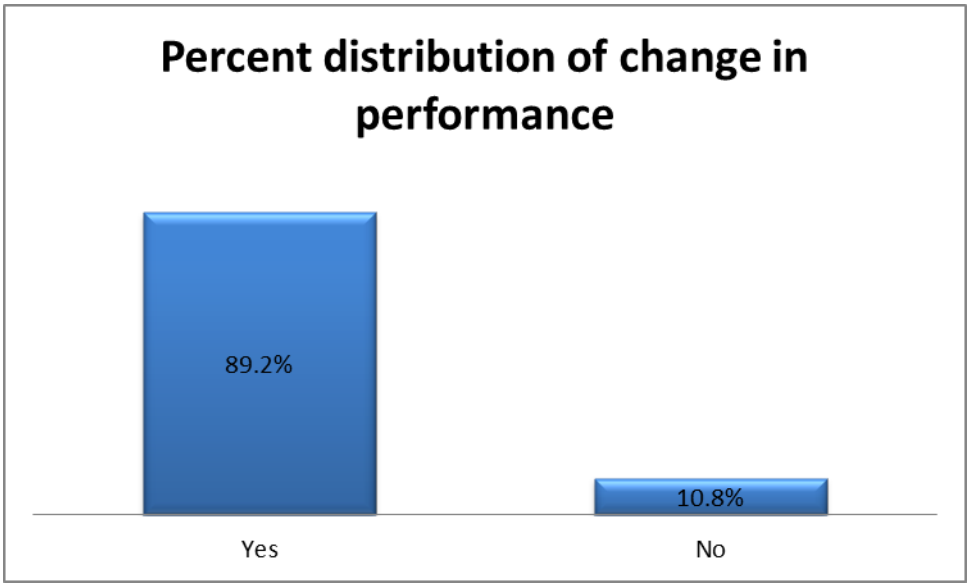


Figure 4 Percent distribution of change in performance

5.2.6. Year ERP implementation was completed

Respondents were also asked to state the year when the ERP system implementation was completed in their department and the responses that were obtained are presented in the table below.

Table 7 Year ERP system implementation was completed

	Frequency	Percent
2014	1	2.7
2015	10	27.0
2016	7	18.9
2017	12	32.4
2018	6	16.2
2019	1	2.7
Total	**37**	**100.0**

It can be seen from the table above that out the 37 sampled respondents, 12 (32.4%) responded that the ERP system implementation was completed in 2017, 10 (27%) responded that the system was implemented completely in 2015 while 7 (18.9%), 6 (16.2%) and 1 (2.7%) of the respondents responded that the ERP system implementation was completed in 2016, 2018, 2014 and 2019 respectively. This information can be further presented in percent form in the figure below.

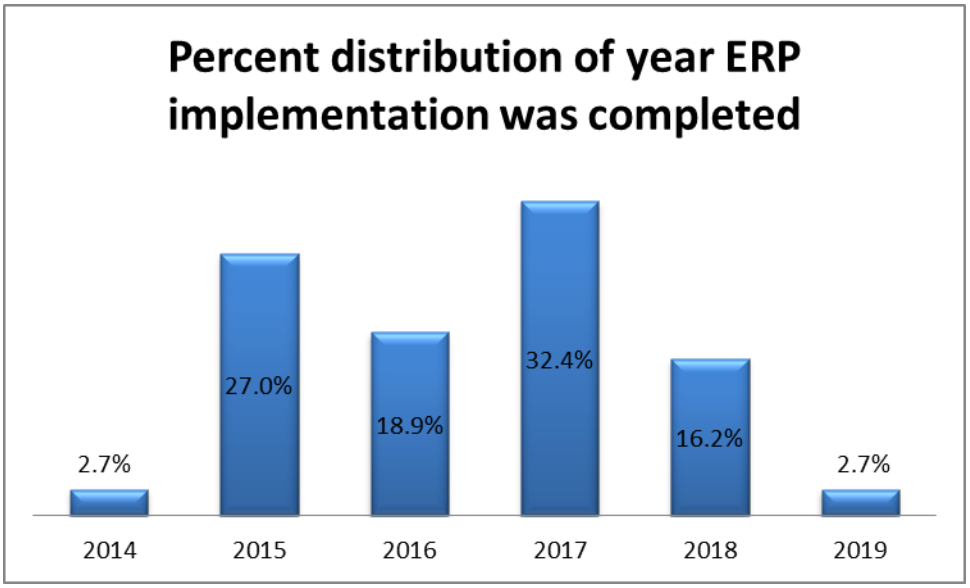


Figure 5 Year ERP system implementation was completed

5.3. ERP on Organizational Performance

Respondents were asked to rate the performance of the ERP system that their department used. The rating was done using a scale of 5, 1 - meaning strongly disagree to the statement, 2 - disagree, 3 - indefferent, 4 - agree and 5 - strongly agree. The main reason of these questions was to capture respondents' opinion on how they think the ERP system has helped them in improving their performance as workers of the organization.

5.3.1. Human Resource Allocation

Respondents were asked to rate the use of the ERP system on Human Resource Allocation and the responses that were obtained from the respondents are presented in the table below.

Table 8 ERP system on Human Resource Allocation

Statement	Strongly Disagree	Disagree	indefferent	Agree	Strongly Agree
Staffing levels are adequate in all departments	3 (8.1%)	8 (21.6%)	14 (37.8%)	7 (18.9%)	5 (13.5%)
Employees are adequately trained to use the ERP system	0	3 (8.1%)	16 (43.2%)	16 (43.2%)	2 (5.4%)
Employees are happy with the changes brought about with the ERP implementation	0	4 (10.8%)	12 (32.4%)	18 (48.6%)	3 (8.1%)
Tasks are divided into separate jobs in your organization	0	1 (2.7%)	12 (32.4%)	17 (45.9%)	7 (18.9%)
Top management supports the use and adoption of ERP system	0	2 (5.4%)	3 (8.1%)	13 (35.1%)	19 (51.4%)

It can be seen from the table above that out of the 37 respondents who were asked to give an opinion on whether staffing levels are adequate in all the departments,14(37.8%)were indifferent.8 (21.6%) of the respondents disagree while 7 (18.9%) agreed to the statement. The remaining 5 (13.5%) and 3 (8.1%) of the respondents strongly agreed and strongly disagreed to the statement that there is adequate staffing in all departments respectively.16(43.2%) consisted of respondents who were indifferent and agreed to the statement that employees were adequately trained in the use of ERP systems.3(8.1%) of the respondents disagreed to the statement while 2 (5.4%) of the respondents strongly agreed to the statement and none of the respondents strongly disagreed to the statement that employees are adequately trained to use the ERP system. Asked whether employees are happy with the changes brought about with the ERP system

implementation, 18 (48.6%) of the respondents agreed to the statement,12 (32.4%) represented those who were indifferent to the statement,while 4 (10.8%) and 3 (8.1%) of the respondents disagreed and strongly agreed respectively.None of the respondents strongly disagreed to the statement. Respondents were also asked to state their opinion on the statement that tasks are divided into separate jobs in the organization and out of the 37 sampled respondents, 17 (45.9%) of the respondents agreed to the statement, 12 (32.4%) of the respondents were indifferent. 7 (18.9%) of the respondents strongly agreed to the statement while 1 (2.7%) respondent disagreed and none of the respondents strongly disagreed to the statement that tasks are divided into separate jobs in the organization. Still on human resource allocation, respondents were finally asked to state whether top management supports the use and adoption of the ERP system and out of the 37respondents,.19 (51.4) strongly agreed and 13(35.1) agreed to the statement. 3 (8.1%) and 2 (5.4%) of the respondents were indeffirent and disagreed to the statement that top management supports the use and adoption of the ERP system respectively, while none of the respondents strongly disagreed to the statement.

5.3.2. Technical Support

Respondents were asked to rate the technical support that they receive on the ERP system and the responses that were obtained are presented in the table below.

Table 9 ERP system on Technical Support

Statement	Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree
The IT department solves all my problems on the system	0	2 (5.4%)	11 (29.7%)	16 (43.2%)	8 (21.6%)
IT support is always available when needed	0	4 (10.8%)	17 (45.9%)	15 (40.5%)	1 (2.7%)
Training provided by the IT department improves my quality of work	0	6 (16.2%)	8 (21.6%)	17 (45.9%)	6 (16.2
There is adequate equipment for all the	0	8	5 (13.5%)	15	9 (24.3%)

employees		(21.6%)		(40.5%)	
The IT department delivers what they promise	0	7 (18.9%)	7 (18.9%)	17 (45.9%)	6 (16.2%)

Based on the technical support, respondents were asked for their opinion on whether IT department solves all their problems on the ERP system and out of the 37 respondents, 16 (43.2%) agreed to the statement, 11 (29.7%) of the respondents were indifferent to the statement, 8 (21.6%) and 2 (5.4%) of the respondents strongly agreed and disagreed to the statement that the IT department solves all their problems on the ERP system respectively while none of the respondents strongly disagreed to the statement. Asked for their opinion whether IT support is always available when needed and out of the 37respondents, 17 (45.9%) represented the indifferent respondents, 15 (40.5%) of the respondents agreed to the statement, 4 (10.8%) and 1 (2.7%) of the respondents disagreed and strongly agreed to the statement that IT support is always available when needed while none of the respondents strongly disagreed to the statement. Aked whether training provided by the IT department improves their quality of work and out of the 37 respondents, 17 (45.9%) of the respondents agreed to the statement, 8 (21.6%) of the respondents were indifferent to the statement. The respondents who disagreed and those who strongly agreed where both 6 (16.2%). Respondents were then asked to state whether there are adequate equipment for all the employees and out of the 37 respondents, 15 (40.5%) and 9 (24.3%) of the respondents agreed and strongly agreed to the statement respectively.8 (21.6%) disagreed,5 (13.5%) of the respondents were indifferent while none of the respondents strongly disagreed to the statement. Lastly on technical support, respondents were asked for their opinion on whether the IT department delivers what they promise and out of the 37 respondents, 17 (45.9%) of the respondents agreed,7 (18.9%) of the respondents were indifferent and disagreed to the statement respectively. 6 (16.2%) and none of the respondents strongly agreed and strongly disagreed to the statement that the IT department delivers what they promise respectively.

5.3.3. Information System

On information system, respondents were asked to give their opinion on whether they strongly agreed, agreed, neither agreed nor disagreed, disagreed or strongly disagreed and the responses that were obtained are presented in the table below

Table 10 ERP system on Information System

Statement	Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree
The IT system is always available	0	4 (10.8%)	16 (43.2%)	17 (45.9%)	0
IT support is always available when needed	0	4 (10.8%)	17 (45.9%)	15 (40.5%)	1 (2.7%)
The new system is better than the previous system used	2 (5.4%)	4 (10.8%)	12 (32.4%)	9 (24.3%)	10 (27%)
There is adequate equipment (hard ware) for all the employees	0	8 (21.6%)	5 (13.5%)	15 (40.5%)	9 (24.3%)
Information technology is very valuable in our organization	0	1 (2.7%)	1 (2.7%)	14 (37.8%)	21 (56.8%)

Respondents were asked whether the IT system is always available and out of the 37 respondents 17 (45.9%) of the respondents agreed to the statement that IT system is always available, 16 (43.2%) of the respondents were indifferent to the statement, 4 (10.8%) of the respondents disagreed, while none of the respondents strongly agreed and strongly disagreed to the statement that IT system is always available. Asked whether IT support is always available when needed and out of the 37 respondents, 17 (45.9%) of the respondents were indifferent to the statement, 15 (40.5%) of the respondents agreed to the statement, 4 (10.8%) and 1 (2.7%) of the respondents disagreed and strongly agreed respectively to the statement that IT support is always available when needed while none of the respondents strongly disagreed to the statement.

Respondents were further asked to state whether they think the new system is better than the previous system used and out of the 37 respondents, 12 (32.4%) of the respondents were indifferent , 10 (27%) of the respondents strongly agreed to the statement, 9 (24.3%) of the respondents agreed, 4 (10.8%) of the respondents disagreed to the statement while 2 (5.4%) of the respondents strongly disagreed to the statement that the new system is better than the previous system used. When asked whether there is adequate equipment (hard ware) for all the employees, 15 (40.5%) of the respondents agreed to the statement that there is adequate equipment (hard ware) for all the employees, 9 (24.3%) of the respondents strongly agreed to the statement, 8 (21.6%) and 5 (13.5%) of the respondents disagreed and were indifferent to the statement that there is adequate equipment (hard ware) for all the employees respectively while none of the respondents strongly disagreed to the statement. Lastly, respondents asked a statement on whether information technology is very valuable in the organization and out of the 37 respondents, 21 (56.8%) strongly agreed to the statement that information technology is very valuable in the organization, 14 (37.8%) of the respondents agreed to the statement, 1 (2.7%) represented the indifferent and disagreed respondents respectively to the statement. while no one strongly disagreed to the statement.

5.3.4. Effectiveness

On effectiveness, respondents were asked several statements and the responses that were obtained are presented in the table below.

Table 11 ERP system on Effectiveness

Statement	Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree
Your ERP is Reliable	0	4 (10.8%)	8 (21.6%)	17 (45.9%)	8 (21.6%)
Your ERP is Efficient	0	3 (8.1%)	6 (16.2%)	19 (51.4%)	9 (24.3%)
Your ERP is easy to learn	0	1 (2.7%)	8 (21.6%)	23 (62.2%)	5 (13.5%)

Your ERP meets user requirements	0	5 (13.5%)	13 (35.1%)	19 (51.4%)	0
Your ERP improves individual productivity reduces organizational costs	0	7 (18.9%)	7 (18.9%)	17 (45.9%)	6 (16.2%)

Respondents were asked to state whether their ERP system is reliable, out of the 37 respondents, 17 (45.9%) agreed to the statement. 8 (21.6%) represented the respondents who were indifferent and those who strongly agreed to the statement that their ERP is reliable. 4 (10.8%) of the respondents disagreed,while none of the respondents strongly disagreed to the statement that their ERP system is reliable. Respondents were also asked to state if the ERP system used was efficient and out of the 37 respondents, 19 (51.4%) and 9 (24.3%) of the respondents agreed and strongly agreed to the statement respectively.6 (16.2%) of the respondents were indifferent and 3 (8.1%) of the respondents disagreed to the statement that the ERP system is efficient while none of the respondents strongly disagreed to the statement. Respondents were further asked to state whether the ERP system is easy to learn and out of the 37 respondents, 23 (62.2%) of the respondents agreed to the statement, 8 (21.6%) of the respondents were indifferent to the statement, 5 (13.5%) of the respondents strongly disagreed while 1 (2.7%) respondent disagreed to the statement that the ERP system is easy to learn and none of the respondents strongly disagreed to the statement. Asked to state whether they think the ERP system meets their user requirements ,19 (51.4%) agreed, 13 of the respondents were indifferent to the statement and 5 (13.5%) of the respondents disagreed to the statement that the ERP system meets their user requirements. None of the respondents strongly disagreed nor strongly agreed to the statement respectively. Lastly, respondents were asked whether the ERP system improves individual productivity and reduces organizational cost, 17 (45.9%) of the respondents agreed to that statement, 7 (18.9%) of the respondents were indifferent to the statement while the disagreed to the statement. 6 (16.2%) of the respondents strongly agreed to the statement that the ERP system ERP improves individual productivity reduces organizational costs while none of the respondents strongly disagreed to the statement

5.3.5. Facility Layout

Respondents were asked several statements in relation to facility lay out and the responses that obtained from the respondents are presented in the table below.

Table 12 ERP system on Facility layout

Statement	Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree
It is easy for employees and clients to move within your facilities	0	6 (16.2%)	8 (21.6%)	17 (45.9%)	6 (16.2%)
Your Facilities are easily accessed and located by clients	0	4 (10.8%)	8 (21.6%)	17 (45.9%)	8 (21.6%)
Tasks are completed faster using ERP	0	2 (5.4%)	11 (29.7%)	16 (43.2%)	8 (21.6%)
Information is easily shared as accessed using ERP	0	3 (8.1%)	9 (24.3%)	19 (51.4%)	6 (16.2%)
Your ERP makes it easy for external clients to access services provided	0	4 (10.8%)	14 (37.8%)	14 (37.8%)	5 (13.5%)

Respondents were asked whether it is now easy for employees and clients to move within the facility and out of the 37 respondents, 17 (45.9%) of the respondents agreed to the statement, 8 (21.6%) of the respondents were indifferent to the statement, 6 (16.2%) of the respondents disagreed and the other one strongly agreed to the statement that it is easy for employees and clients to move within your facilities and none of the respondents strongly disagreed to the statement. Respondents were further whether they feel their facility is easily accessed and located by clients and out of the 37 respondents, 17 (45.9%) of the respondents agreed,8 (21.6%) of the respondents were indifferent to the statement and the other 8(21.6%) strongly agreed to the statement.4 (10.8%) of the respondents disagreed while none of the respondents strongly disagreed to the statement that their facility is easily accessed and located by clients. In addition,

respondents were asked to state whether tasks are completed faster using the ERP system and out of the 37 respondents, 16 (43.2%) of the respondents agreed, 11 (29.7%) of the respondents were indifferent to the statement. 8 (21.6%) and 2 (5.4%) of the respondents strongly agreed and disagreed to the statement that tasks are completed faster using the ERP system respectively while none of the respondents strongly disagreed to the statement. Respondents were also asked a statement on whether information is easily shared as accessed using the ERP system and out of the 37 sampled respondents, 19 (51.4%) of the respondents agreed ,9 (24.3%) of the respondents strongly agreed to the statement, 6 (16.2%) of the respondents were indifferent and 3 (8.1%) of the respondents disagreed to the statement that information is easily shared as accessed using the ERP system while none of the respondents strongly disagreed to the statement. Lastly, respondents were asked a statement on whether the ERP system makes it easy for the external clients to access services provided by the organization and out of the 37 sampled respondents, 14 (37.8%) of the respondents agreed and were indifferent to the statement respectively. 5 (13.5%) of the respondents strongly agreed to the statement while 4 (10.8%) of the respondents disagreed to the statement that the ERP system makes it easy for the external clients to access services provided by the organization and none of the respondents strongly disagreed to the statement.

5.3.6. Innovation

Respondents were asked statements on innovation of the ERP system and the responses that were obtained from the respondents are presented in the table below.

Table 13 ERP system on Innovation

Statement	Strongly Disagree	Disagree	Indifferent	Agree	Strongly Agree
Your ERP allows integration with other IT systems		3 (8.1%)	9 (24.3%)	19 (51.4%)	6 (16.2%)
Your ERP allows customization		4 (10.8%)	14 (37.8%)	14 (37.8%)	5 (13.5%)
Your ERP allows Data integration		6 (16.2%)	8 (21.6%)	17 (45.9%)	6 (16.2%)

Your ERP can easily be modified, corrected and improved		2 (5.4%)	11 (29.7%)	16 (43.2%)	8 (21.6%)
Information is easily shared and accessed using ERP		1 (2.7%)	8 (21.6%)	23 (62.2%)	5 (13.5%)

Respondents were asked to state whether their ERP system allows integration with other IT system and out of the 37 sampled respondents, 19 (51.4%) and (24.3%) of the respondents agreed and strongly agreed to the statement respectively. 6 (16.2%) of the respondents were indifferent and 3 (8.1%) of the respondents disagreed to the statement that their ERP system allows integration with the IT system while none of the respondents strongly disagreed to the statement. Respondents were further asked if the ERP system allows customization and out of the 37 sampled respondents, 14 (37.8%) responses were recorded from respondents who agreed and those who were indifferent to the statement, 5 (13.5%) of the respondents strongly agreed to the statement while 4 (10.8%) of the respondents disagreed to the statement that the ERP system allows customization and none of the respondents strongly disagreed to the statement. Furthermore, respondents were asked if ERP system allows data integration and out of the 37 respondents, 17 (45.9%) of the respondents agreed to the statement that the ERP system allows data integration, 8 (21.6%) of the respondents were indifferent, 6 (16.2%) of the respondents disagreed and the other one strongly agreed to the statement that the ERP system allows data integration and none of the respondents strongly disagreed to the statement. Asked whether the ERP system can easily be modified, corrected and improved, 16 (43.2%) of the respondents agreed to the statement that the ERP system can easily be modified, corrected and improved, 11 (29.7%) were indiffernt, 8 (21.6%) and 2 (5.4%) of the respondents strongly agreed and disagreed to the statement that the ERP system can easily be modified, corrected and improved respectively while none of the respondents strongly disagreed to the statement. Lastly respondents were asked to give an opinion on whether information is easily shared and accessed using the ERP system and out of the 37 respondents, 23 (62.2%) of the respondents agreed to the statement that the information is easily shared and accessed using the ERP system, 8 (21.6%) of the respondents were indifferent, 5 (13.5%) of the respondents strongly disagreed while 1

(2.7%) respondent disagreed to the statement that the information is easily shared and accessed using the ERP system and none of the respondents strongly disagreed to the statement.

5.4. Reliability and validity

Confirmatory factor analysis (CFA) was used to assess the properties of the scales. The four-factor, 30-item measurement model fit the data satisfactorily: CFI=0.798; TLI=0.534; RMSEA=0.064; SRMR=0.060, $\chi 2$=444.215, df=190, $p<0.01$ (Hu and Bentler, 1999). Convergent validity of the constructs was also established. Items loaded on the appropriate factors and factor loadings were all significant at $p<0.01$. Discriminant validity was determined through the average variance extracted (AVE) method by comparing AVE values with squared correlation values (shared variance) for constructs in a model. If the AVE for a construct is greater than its squared correlation values (shared variance) with any other construct in the model, or if the AVE of construct A and the AVE of construct B are both greater than the squared correlation of A and B, then there is discriminant validity (Fornell & Larcker, 1981). Information on Cronbach α's, composite reliabilities, and AVE (all except one achieved the 0.50 threshold; (Fornell and Larcker, 1981) for all the latent variables are reported in Table I; and Table II shows the correlation matrix and figures that support discriminant validity of the variables.

Table 14 Reliability and validity

Scale/Item	Factor Loading	α	AVE	CR
Human Resource Allocation				
Staffing levels are adequate in all departments	0.798	0.83	0.647	0.814
Employees are adequately trained to use the ERP system	0.555			
Employees are happy with the changes brought about with the ERP implementation	.780			
Tasks are divided into separate jobs in your organization	.553			
Top management supports the use and adoption of ERP system	.663			
Technical support				
The IT department solves all my problems on the system	.726	0.74	0.636	0.787
IT support is always available when needed	.743			
Training provided by the IT department improves my quality of work	.780			
There is adequate equipment for all the employees	.793			
The IT department delivers what they promise	.650			
Information System				
The IT system is always available	.723	0.73	0.537	0.793
IT support is always available when needed	.773			
The new system is better than the previous system used	.827			
There is adequate equipment (hard ware) for all the employees	.747			
Information technology is very valuable in our organization	.751			

Effectiveness				
Your ERP is Reliable	.732	0.72	0.516	0.748
Your ERP is Efficient	.902			
Your ERP is easy to learn	.960			
Your ERP meets user requirements	.818			
Your ERP improves reduces organizational costs	.750			
Facility Layout				
It is easy for employees and clients to move within your facilities	.775	0.76	0.568	0.762
Your Facilities are easily accessed and located by clients	.714			
Tasks are completed faster using ERP	.730			
Information is easily shared as accessed using ERP	.726			
Your ERP makes it easy for external clients to access services provided	684			
Innovation				
Your ERP allows integration with other IT systems	.731	0.74	0.617	0.769
Your ERP allows customization	.697			
Your ERP allows Data integration	.648			
Your ERP can easily be modified, corrected and improved	.711			
Information is easily shared and accessed using ERP	.726			

5.5. Regression Analysis

In order to determine the effects of facility layout, information system, human resource allocation and technical support on organization performance in NAPSA, a regression analysis was run and the results that were obtained are presented in the table below.

Table 15 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.867[a]	.752	.504	.222

a. Predictors: (Constant), Human Resource Allocation, Technical Support, Information System, Effectiveness, Facility layout, Innovation.

The results showed that 75.2% variation was explained by the variables under the study. This means that the regression model used is a good predictor. Similarly, the correlation between introduction of ERP systems and improvement on workers performance in the organization was found to be R=0.867 which implies the variables contributed 86.7% on the relationship between the independent variables and the dependent variables.,

Table *16* ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.684	18	0.149	3.036	.012[b]
	Residual	0.884	18	0.049		
	Total	3.568	36			

a. Dependent Variable: Has the introduction of the ERP system in your department lead to improved performance in your department?

b. Predictors: (Constant), Human Resource Allocation, Technical Support, Information System, Effectiveness, Facility layout, Innovation.

From the above findings, there is a minimal difference between the two mean squares (0.149 and 0.049) resulting into a significance difference (F=3.036, Sig. =0.012). The difference between the means that has been observed means that there is a relation between introduction of the ERP system in the organization and improvement in workers performance.

Table 17 Coefficients of determination

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.895	0.425		4.462	0
	Human Resource allocation	0.307	0.12	0.657	2.556	0.02
	Technical Support	0.186	0.078	0.499	2.395	0.028
	Information System	0.163	0.101	0.494	1.619	0.123
	Effectiveness	0.113	0.093	0.31	1.145	0.267
	Facility Layout	0.026	0.102	0.042	0.156	0.877
	Innovation	0.051	0.094	0.032	0.122	0.904

a. Dependent Variable: Has the introduction of the ERP system in your department lead to improved performance in your department?

Below is the regression model that was obtained from the results of the analysis

$Y = 1.895 + 0.307X1 + 0.186X2 + 0.163X3 + 0.113X4 + 0.026X5 + 0.051X6$

Where, Y= organization performance, X1= Human Resource Allocation, X2= Technical support, X3= Information System, X4= Effectiveness, X5= Facility Layout, X6= Innovation

Based on the findings from the regression analysis, it can be seen that all the variables under study have a positive effect on organizational performance. Holding all other things equal, a 1 percent change in Human resource management would lead to a 30 percent change in organizational performance, a 1 percent change in Technical support leads to a 18.6 percent change in organization performance, a 1 percent change in information system leads to a 16.3

percent change in organization performance. However, a change in effectiveness, facility layout and innovation leads to a 11.3%, 2.6% and 5.1% change in organization performance respectively. Looking at the effects of these variables, human resource allocation has the highest effects on organization performance and facility layout has the least effects on organizational performance.

5.6. Discussion of results and findings

The main purpose of this study is to establish the relationship between Enterprise Resource Planning (ERP) and organizational performance in the pension industry in Zambia. The first objective of the study was to determine the effect of facility layout on organizational performance in NAPSA. Based on the findings of Calleya and Caruana in 1998 where they found that facility layout and organization performance has a positive relationship. An increase in facility layout leads to an increase in organizational performance. This study is not different from these findings, a unit change in facility layout leads to a 2.6% change in organizational performance in NAPSA.

The second objective of the study was to determine the effects of information system on organizational performance in NAPSA. In trying to assess the relationship between information system and organizational performance, Tsai conducted a study which was aimed at investigating the relationship between information system and organization performance. The findings from his study showed that there is a positive relationship between information system and organization performance and that information system is a mediator variable for organization performance. If the organization/company upholds information system, then there are high chances of employees from that organization to be committed to that organization and even their performance would improve leading to an improvement in organization performance (Tsai, 2014). However the findings from this study are not different from the findings that Tsai found in his study. It can be seen from the results presented above that information system also has an impact on organization performance. The positive relation is such that if information system in the organization increases, then organization performance also increases. This is to say if the organization considers an improvement in information system, then organization performance

would also improve as employees would be more effective in the use of the improved information.

The third objective of the study was to establish the relationship between Human Resource allocation and organizational performance in NAPSA. Based on the finding that Gunlu found in his study on the effects of Human Resource Allocation on Organization Performance among hotel workers in turkey, this study found similar results. The results from Gunlu found that human resource allocation has a positive impact on organization performance and the finding from this study also shows that there is a positive relationship between human resource allocation and organization performance. This is to say an increase in human resource allocation would lead to an increase in organization performance as employees would be more productive and division of labour would be practiced.

The forth objective of the study was to determine the effects of technical support on organizational performance in NAPSA. The findings of this study show a positive relationship between technical support and organization commitment. Among the contingent factors, organizational factors of top management support were found to have significant influence on successful ERP systems usage as it was suggested by previous studies and has a great influence on organizational performance. The study is in line with the findings of Lin (2010) and Costa et al. (2016). The ERPs factors such as training and user satisfaction were similarly found to have a significant effect on organizational performance. If people are trained and satisfied with the system, their output increases which in turn increases organization performance. Therefore, technical support is important in increasing organization performance.

5.7. Summary

This chapter discussed the data analyzed and interpretation with reference to the methodology. The aim of this study was to establish the relationship between Enterprise Resource Planning (ERP) and organization performance in the pension industry. The findings show that there is a relationship between ERP system implementation and organization performance. The main findings of the investigation were summarized. Chapter 6 concludes the study, as it gives the conclusion and makes recommendations for practice and further research.

CHAPTER SIX

SUMMARY OF FINDINGS,CONCLUSION AND RECOMMENDATIONS

6.1. Introduction

The study sought to find the relationship between enterprise resource planning and Organisational performance of NAPSA. This chapter presents the conclusion and recommendations.Limitations and Areas for further studies will also be discussed in this chapter.

6.2. Summary of Findings

The Main objective of the study was to establish a relationship between Enterprise Resource Planning and Organisation Performance in the pension Industry by conducting a case study on the National Pension Scheme Authority. The Specific objectives of the studt where:

1. To determine the effects of Facility layout on Organisation performance in NAPSA
2. To determine the effects of Information Sytems on the Organsation performance of NAPSA
3. To establish a relationship between Human Resource Alloaction and organisation performance in NAPSA
4. To determine the effects of technical support on organisation performance

The findings show that there exist a relationship between enterprise resource planning (ERP) and organisation performance in the Pension industry.

6.3. Conclusion

From the findings above, it can be concluded that ERP system implementation has greatly improved workers performance among NAPSA employees. In all the departments, employees who were interviewed seem to be happy with the introduction of the ERP system in the organization. Based on the findings, all the factors have a positive relationship with organization performance. Human resource allocation has the greatest impact on organization performance as a unit change in human resource allocation leads to a 30.7% change in organization performance. Technical support also has a positive relation with organization performance and as percentage change leads to 18.6% change in organizational performance. A percentage change in Information system, effectiveness, facility layout and innovation leads to a 16.3%, 11.3%, 2.6%

and 5.1% change in organisation performance respectively. It is important for the organization to employ and fully implement the ERP system as it has a positive impact on organization performance. In the case of NAPSA and based on the finding from the study, all the factors have a positive relationship but some factors have minimal impact on the improvement of organization performance.

6.4. Recommendations

Based on the finding, the researcher would make the following recommendations;

- There is need to explore shifts in IT data management and also the IT department should always be there to offer technical support and to attract human resources with competence in information systems that have the skill and innovation in using hardware and software.The IT team should also perform the required tasks optimally.
- As seen from the study, human resource allocation has the highest impact on organizational performance. Therefore ,it is important for the organization to continually work on evaluating the human resources regularly and investing in human resources through training, motivating, maintaining and considering it the strategic supplier of the effectiveness and efficiency of organization.
- There is also need to extend the post-implementation phase for continuous improvement and success.

6.5. Limitations of the Study

a. **Lack of Cooperation:** The researcher was not able to collect all the required information from all the respondents as they did not see the importance of the study as it is academic. Respondents who are employees of NAPSA were uncooperative to the extent that some of them did not complete the form that was sent to them as they felt that it was not necessary. The researcher tried to explain the importance of the study which gave them more confidence to cooperate and give out the necessary data.

b. **Confidentiality**: Information on the work that they do was considered to be confidential by the respondents as most of them felt the researcher was soliciting for information which would be used against them. Furthermore, people thought that their responses would be leaked to the organization and hence were hesitant to give some information on

the study. The researcher guaranteed confidentiality to the information that will be collected and that the information collected was being used for academic purposes only and would not be linked to any individual.

c. **Lack of information:** Most of the data that was required for this study was not found as the information was regarded as confidential and the researcher did not have access to much needed information from the respondents.

d. **Covid19 pandemic:** The advent of the Covid19 complicated the whole process information elicitation. Interviews always posed a health risk to both the researcher and the respondents.

6.6. Areas for further studies

This study sought to establish the relationship that existed between enterprise resource planning and Organisational performance of the National pension scheme Authority. A similar study can be carried out using all companies in the pension industry . A model can also be derived and tested to evaluate the relationship between enterprise resource planning and Organisational performance. This study focused on the effect of ERP on Organisational performance in NAPSA. A similar study can be done on another aspect of a different industry

REFERENCES

American Phychological Association. (2010). *Publication Manual 6th ed.* American Physhological Association.

Adejare Yusuff Aremu, O. Y. (2020). The Impacts of Enterprise Resource Planning System Adoption on Firm's Performance Among Medium Size Enterprises. *International Journal of Information Systems and Social Change, 11*(1).

Amaratunga,D;Baldry,D;Sarshahr,M., & Newton,R. (2002). Qantitative and qualitative research in the built environment:application of "mixed" research approach. *work study 51 (1)*, 17-31.

Antony, J., & Bhattacharyya, S. (2010). "Measuring organizational performance and organizational excellence of SMEs – Part 2: an empirical study on SMEs in India". *Measuring Business Excellence*, 42-52.

Bagozzi, R. P. (2007). "The Legacy of the Technology Acceptance Model and a Proposal for a Paradigm Shift.,". *Journal of the Association for Information .vol 8*. From https://aisel.aisnet.org/jais/vol8/iss4/12.

Barker, T., & Frolic, M. (2003). ERP Implementation Failure: ACase Study. *Information Management*, 43-49.

Bashaer, A., Singh, S., & Sherine, F. (2016). Determinants of organizational performance: a proposed framework. *International Journal of Productivity and Performance Management}*, 844-859.

Bernhard W., Peter B., Zoltan P. M.and Maria-Luise O. (2006). The impact of ERP systems on firm and business process performance. *Journal of Enterprise Information Management*, 13-29.

Blaikie, N. (2010). *"Designing Social Research".* Polity Press.

Bryman, A. (2004). *"Social Research Methods." (2nd ed).* Oxford: Oxford University Press.

Bryman, A. (2012). *"Social Research Methods",4th edition.* Oxford: Oxford University Press.

Burrel, G. a. (1979). *Sociological Paradigms and Organisational Analysis.* London: Heinemann.

Chand, D. H. (2005). A balanced scorecard based framework for assessing the strategic impacts of ERP systems. *Computers in Industry.56*, 558-572.

Chung, S., & Synder, C. (1999, August). ERP Initiation-A Historicak Perspective. *Proceedings of American Conference on Informatopn Systems*.

Churchill, G. A., & Iacobucci, D. (2002). *Marketing research : methodological foundations.* Australia [i pozostałe]: South Western/Thomson Learning.

Cooper, D. R. (2006). *Business Research Methods 8th edition.* USA: McGraw-Hill.

Creswell, J. W. (2012). *"Research Design: Qualitative, Quantitative and Mixed Method.* Caks: Sage Publications.

Da Silveira, G. (2008). Framework for the Management of Product Variety. *International Journal of Operations and Production Management*, 271-285.

Dehning, B., & Richardson, V. (2012). Returns on Investments in Information Technology: A Research Synthesis. *Journal of Information Systems*.

Elragal, A. &.-S. (2011, 12 02). The Effect of ERP System Implementation on Business Performance: An Exploratory Case-Study. *Communications of the IBIMA*, p. 20. From IBIMA Publishing Communications of the IBIMA http://www.ibimapublishing.com/journals/CIBIMA/cibima.htm.

Elsayed, N., Ammar, S., & Mardini, H. (2015). The impact of ERP utilisation experience and segmental reporting on corporate performance in the UK context. *ENTERPRISE INFORMATION SYSTEMS*.

Fornell, & Larcker. (1981). *Evaluating structural equation models with unobservable variables and measurement error.* Journal of Marketing Research, Vol. 18 No.

G. Morgan & L.Smircich. (1980). The case of Qualitative research. *Academy of Management review, 5(4),* 491-500.

Galliers, R. (. (1992). *Information systems research : Issues, methods, and practical guidelines.* Oxford: Blackwell Scientific Publications.

Garvin, D. (1988). *Managing quality-The Strategic and Competitive Edge.* New york: The Free Press.

Gavrea, C. I., & Stegerean, R. (2011). Determinants of Organizational Performance:The Case of Romania. *Management & Marketing Challenges for the Knowledge Society*, 285-300.

Griffin, A. (2002). Product development cycle time for business-to-business products. *Industrial Marketing Management*, 291–304.

Groenewald, D. & Okanga, B., . (2019, , january 23). 'Optimising enterprise resource planning system to everage a firm's absorptive and adaptive capabilities', . Johannesburg, South Africa.

Gupta, I. C., & J., D. (2008). *IT Enabled Practices and Emerging Management Paradigms.* Excel Books .

Hallebone, E. &. (2009). *"Business and Management Research: Paradigms and Practices".* Palgrave Macmillan.

Hart, C. &. (2014). The Organisational Performance Impact Of ERP Systems On Selected Companies. *South African Journal of Industrial Engineering Vol 25(1)*, 14-28.

Heragu, S. (2006). *Facilities Design, 2nd edition.* Louisville: iUniverse , Inc.

Hunton, J. &. (2003). Enterprise resource planning systems:comparing firm performance of adopters and non-adopters. *International journal of accounting information systems, 4(1),*, 165-184.

I. Chen, C. C. (2014). "An integrated system for object tracking, detection, and online learning with real-time RGB-D video," . *{2014 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, (pp. 6558-6562). Florence, Italy.

Igbaria, M. D. (1995). Testing the determinants of microcomputer useage via a structral equation model. *journal of management information system,11 (4)*, 87-114.

Ignatio M., C. M. (2016). Enterprise resource planning (ERP) in improving operational efficiency: Case study. *Procedia CIRP 40*, pp. 225 – 229.

Isreal, G. D. (2003, june). *EDIS.* From http://edis.ifas.ufl.edu: https://www.tarleton.edu/academicassessment/documents/Samplesize.pdf

Juha-Pekka Kallunki, E. K. (2010). Impact of enterprise resource planning systems on management control systems and firm performance. *International Journal of Accounting Information Systems*.

Khalid A. E., S. M. (2015). A Model for Measuring Geographic Information Systems Success. *Journal of Geographic Information System*.

Kimmel, M. (2008). W. A. Darity Jr. (Ed.). *International encyclopedia of the social sciences 2nd ed., Vol. 5*, 1-5.

Koontz, H. &. (1993). *Introduction to Management.* New York.: McGrawHill Inc.

Krause, D. R. (2007). The relationship between supplier development, commitment, social capital accumulation and performance improvement‖. *Journal of Operations Management*, 528-545.

Lu Zhang, J. H. (2012). Impact of ERP Investment on Company Performance: Evidence from Manufacturing Firms in China. *TSINGHUA SCIENCE AND TECHNOLOGY*, 232-240.

M, S., P, L., & A, T. (2007). *Research Methods for Business Students.* Edinburgh : Pearson Education Limited.

M.T.Holden.,& P.Lynch. (2004). Choosing The appropriate Methodology: Understanding research phylosophy. *The marketing Review, 4(4)*, 397-409.

Molnar, Bálint & Szabo, G. & Benczur, Andras. (2014). Investigation of system of criteria within selection processes for ERP systems a middle-european perspective. *Infocommunications Journal.6.*, 26-36. .

Morris, J. J. (2011). Measuring The Impact Of Enterprise Resource Planning (ERP) Systems On Shareholder Value. *Review of Business Information Systems (RBIS),*.

Mushavhanamadi K., M. C. (2013). World Academy of Science, Engineering and Technology. *International Journal of Economics and Management Engineering, Vol:7,*(No:11,).

Mutongwa, M. &. (2013). Mutongwa, M.S., ERP System Solutions for Small and Medium Enterprises in Trans Nzoia County - Kenya.

Nawaz M; K, Channakeshavalu. (2013). The Impact of Enterprise Resource Planning (ERP) Systems. *Asian Pascific Journal of Reserach, No: 2*(Issue: 4), 43.

N., A. (2010). *Business Performance Measurement: Theory and Practice.* Cambridge : Cambridge University Press.

Nahm, A. Y. (2013). ―The impact of organizational structure on time-based manufacturing and plant performance‖. *Journal of Operations Management*, 281-306.

Nahm, A. Y., & Koufteros, X. A. (2004). The impact of organizational culture on Time-Based Manufacturing and Performance. *Decision Sciences*, Decision Sciences.

Ross, J., & Vitale, M. (2000). The ERP Revolution: Surviving vs. Thriving. *Information Systems Frontiers*, 233-241.

Saunders.M, Lewis.P, & Thornhill.A. (2007). *Research Methods for Business Students.* Edinburgh Gate: Pearson Education Limited.

Shang, S. &. (2002). Assessing & managing the benefits of enterprise systems: The business manager's perspective,. *Information Systems Journal, 12,*, 271-299.

Shatat, A. S. (2012). The relationship between ERP system and supply chain management performance in Malaysian manufacturing companies. *Journal of Enterprise Information Management, Vol. 25 No. 6,* .

Shumbayawonda, W. (2011). *Postgraduate Diploma in Education (PGDE).* Harare: Zimbabwe Open University.

Stevenson, W. J. (2009). *Operations Management.* New York: McGraw-Hill Irwin.

Thomas, T. J. (2009). Epistemology, Theory, and Methodology Toward a Classification,Metatheory, and Research Framework. *In Knowledge Organization; 35(3):*, 102-112.

Tomal, D., & Jones, K. (2015). A Comparison of Core Competencies of Women and Men Leaders in the Manufacturing Industry. . *The Coastal Business Journal, 14,*, 13-25.

Tsai, W. H., Chen, S. P., Hwang, E. T., & Hsu, J. (2010). *A study of the impact of business process on the ERP system effectiveness*, pp. 26–37.

Tsai, Y. (2014). Learning organizations, internal marketing and organizational commitment in hospitals. *BMC Health Services Research 14(1)*, 152.

Umble, E., & Umble, M. (2003). "Avoiding ERP Implementation Failure". *Industrial Management Society*, 25-33.

Viara, P., & Alexei, S. (2012). Modeling organizational performance indicators. *Information Systems,*, Information Systems,.

Voulgaris, F. P. (2015). The Impact of ERP systems on firm performance : 'The case of Greek enterprises',. *Global business and economic review*, 112-129.

Welman, J. &. (1999). *Research methodology for the business and administrative sciences.* Cape Town: Oxford University Press.

Wieder, B. B. (2006). The impact of ERP systems on firm and business process performance. *Journal of Enterprise Information Management, 19(1)*, 13-29.

YIN, R. K. (2003). *Case study research, design and methods.* CA, SAGE. : Newbury Park,.

APPENDICIES

i. Questionnaire

PART A: BASIC INFORMATION

1. Name of Department where you work……
2. Which module of ERP do you use?

   ……

   ……

   ……
3. When was the ERP system implementation completed (kindly indicate the Year)

PART B: ERP ON ORGANISATIONAL PERFORMANCE

4. Human Resource Allocation

To what extent do you agree or disagree with the statements provided below.

1- Strongly Disagree, 2- disagree, 3- indifferent, 4- agree, 5-Strongly agree.

Statement	1	2	3	4	5
Staffing levels are adequate in all departments					
Employees are adequately trained to use the ERP system					
Employees are happy with the changes brought about with the ERP implementation					
Tasks are divided into separate jobs in your organisation					
Top management supports the use and adoption of ERP system					

5. Technical support

To what extent do you agree with the statements provided below? 1- Strongly Disagree, 2- disagree, 3- indifferent, 4- agree, 5-Strongly agree.

Statement	1	2	3	4	5
The IT department solves all my problems on the system					
IT support is always available when needed					
Training provided by the IT department improves my quality of work					
There is adequate equipment for all the employees					
The IT department delivers what they promise					

6. **Information systems**

   To what extent do you agree with the statements provided below? 1- Strongly Disagree, 2- disagree, 3- Indifferent, 4- agree, 5-Strongly agree.

Statement	1	2	3	4	5
The IT system is always available					
IT support is always available when needed					
The new system is better than the previous system used					
There is adequate equipment (hard ware) for all the employees					
Information technology is very valuable in our organisation					

7. **Effectiveness**

   To what extent do you agree with the statements provided below. 1- Strongly Disagree, 2- disagree, 3- Indifferent, 4- agree, 5-Strongly agree.

Statement	1	2	3	4	5
Your ERP is Reliable					
Your ERP is Efficient					

Your ERP is easy to learn					
Your ERP meets user requirements					
Your ERP improves reduces organisational costs					

8. Facilities layout

To what extent do you agree with the statements provided below. 1- Strongly Disagree, 2- disagree, 3- indifferent, 4- agree, 5-Strongly agree.

It is easy for employees and clients to move within your facilities					
Your Facilities are easily accessed and located by clients					
Tasks are completed faster using ERP					
Information is easily shared as accessed using ERP					
Your ERP makes it easy for external clients to access services provided					

9. Innovation

To what extent do you agree with the statements provided below. 1- Strongly Disagree, 2- disagree, 3- indifferent, 4- agree, 5-Strongly agree.

Statement	1	2	3	4	5
Your ERP allows integration with other IT systems					
Your ERP allows customisation					
Your ERP allows Data integration					
Your ERP can easily be modified, corrected and improved					
Information is easily shared and accessed using ERP					

10. Change in Performance

Do you think the introduction of ERP system in your department has improved your performance ? (Answer Yes or No)

National Pension Scheme Authority

LEVY BUSINESS PARK
Corner of Church and Kabelenga Roads
P.O. Box 51275
Lusaka - Zambia

HEAD OFFICE

Tel: (260) 211 228056/8
(260) 211 228046/8
Fax: (260) 211 221195
E-mail: info@napsa.co.zm
www.napsa.co.zm

NAPSA 9/1E Vol. 1

4th September, 2019

Mrs. Chimbita Shawa Kaoma
National Pension Scheme Authority
Society Business Park
LUSAKA

Dear Mrs. Kaoma

RE: REQUEST TO CARRY OUT A RESEARCH

Reference is made to your Letter dated ***7th January, 2019*** regarding the above captioned subject in which you requested for permission to carry out a research in the Authority on "***Assessment of Enterprise Resource Planning (ERP) on the Performance of the National Pension Scheme Authority (NAPSA).***"

We wish to advise that your request to conduct a research has been approved and you have been granted permission to go ahead with conducting your research. This is on condition that the information gathered is used for **academic purposes only** and that you **strictly maintain high levels of confidentiality**.

You may therefore submit a copy of your Report to the undersigned once you have concluded your research.

Yours sincerely
NATIONAL PENSION SCHEME AUTHORITY

PP **Betty C Meleki (Mrs.)**
DIRECTOR HUMAN RESOURCES & ADMINISTRATION

cc: Director General
Training and Development Manager

Be smart, secure your future

iii Introductory Letter

THE UNIVERSITY OF ZAMBIA

Telephone: +260 211 250871
Email: gsb@unza.zm
Tel/Fax: +260 211 290863

Graduate School of Business
P. O. Box 32379
Lusaka, Zambia

7th January, 2019

TO WHOM IT MAY CONCERN

RE: INTRODUCTORY LETTER FOR CHIMBITA SHAWA KAOMA (GSB151253)

This letter serves to introduce Chimbita Shawa Kaoma (GSB151253) a bonafide student in our Master of Science (MSc) Operations, Projects & Supply Chain Management programme at the University of Zambia – Graduate School of Business (UNZA–GSB). In partial fulfilment of their Postgraduate studies, each student is required to undertake a dissertation (research) in the final year of study.

May you kindly assist the student in granting permission for her to collect data from your Institution. The research is purely for academic purposes and the student is ethically bound to treat the provided information with strict confidentiality.

Should you have any queries or would like further information about the student, please contact the UNZA–GSB on the above e-mail address or phone numbers.

Dr. Erastus Mwanaumo
ACTING DIRECTOR – GRADUATE SCHOOL BUSINESS

cc Assistant Registrar, Graduate School of Business

UNIVERSITY OF ZAMBIA
GRADUATE SCHOOL OF BUSINESS
08 JAN 2019
DIRECTOR
UNIVERSITY OF ZAMBIA
P.O. BOX 32379, LUSAKA