KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
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An Assessment of Stakeholder Involvement on Enterprise Resource Planning (ERP) Project Success in Ghana

By

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A Thesis submitted to the Department of Construction Technology and Management, College of Art and Built Environment in partial fulfilment of the requirements for the Degree of

MASTER OF SCIENCE

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DECLARATION

I hereby declare that this submission is my own work towards the MSc. Project Management degree. To the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgment has been made in the next.

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ABSTRACT

Enterprise Resource Planning (ERP) systems have gained popularity in Ghana in recent times due to enormous benefits organizations derive from successful implementation of the system. The aim of this study was to assess the effect of stakeholder involvement on ERP project success in Ghana. The study employed the case study approach and selected the Teachers Fund of GNAT Oracle system implementation. To achieve the aim of the study four objectives were set which were: to assess the level of stakeholder involvement in ERP project implementation in Ghana, identify the challenges militating against the implementation of ERP projects in Ghana, identify the critical success factors of ERP project implementation in Ghana and access the effect of stakeholder involvement in project success. A structured questionnaire was administered to 75 staff of Teachers Fund sampled by the researcher to solicit responses for the study. The questionnaires were coded and analyzed using Statistical Package for Social Science. The findings made by the researcher were that, there was high level of stakeholder involvement in ERP projects in Ghana. The top five challenges militating against the implementation ERP implementation are poor IT infrastructure, improper planning, organizational culture, lack of technological knowledge and complexity of system. The top five factors that are critical for successful ERP implementation are top management support, user involvement, project management, data accuracy and hardware and software suitability. The study also found a positive and significant relationship between stakeholder involvement and ERP project success. The study recommends that stakeholders in ERP projects should be seen as not just beneficiaries but part of the implementation at every stage. The major limitation of the study was the researcher's inability to make time to sample all stakeholders of Teachers Fund, a clear case of time limitation. Hence, the focus on Teachers Fund staff and not considering the views of other stakeholders.

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LIST OF ABBREVIATIONS

ERP	Enterprise Resource Planning
CSFs	Critical Success Factors
GNAT	Ghana National Association of Teachers
IT	Information Technology
ICT	Information Communication Technology
IS	Information System
RII	Relative Importance Index
PMI	Project Management Institute
PMBOK 6	Project Management Body of Knowledge-Sixth Edition
PSC	Project Success Criterion
SPSS	Statistical Package for Social Science
SSNIT	Social Security and National Insurance Trust
VEP	Voluntary Environmental Program
SEM	Structured Equation Modeling
SMEs	Small and Medium Scale Enterprises
SNA	Strategic Needs Analysis

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DEDICATION

I dedicate this work to the Almighty God for His Mercies and Grace upon my life from the beginning of this Master's Program till the end.

To my family for their support during the times when I had to recluse myself from other pressing family matters – especially my Wife – Vera Asare Agyapong, children – Honore Hiame Agyapong and Nana Yaa Ayeyi Yeboah Agyapong, my mum Lydia Akua Yeboah, my dad Anthony C.K Hiame and my Siblings.

CHAPTER ONE

GENERAL INTRODUCTION

1.0 INTRODUCTION TO THE CHAPTER

This chapter presents an overview of the thesis which highlights the research in terms of the background of the study and the statement of the research problem. The aim and objectives of the study were also outlined and this is subsequently followed by the significance of the research, methodology to be adopted, the scope of the research and finally the structure of the research.

1.1 BACKGROUND OF STUDY

Projects are said to be successful when they are completed on time, according to specification of stakeholders and within the budget of the project (Duy Nguyen, Ogunlana and Thi Xan Lan, 2004). Project objectives are the best measure of success hence how well the project meets the objectives determines how successful the project is (De Wit, 1988). The success of a project consists of two main components which are the product and project management success (Baccarini, 1999). There are several Critical Success Factors (CSFs) that contribute to the success of projects across different sectors. CSFs are identified for every project to ensure its success. Holland and Light (1999) proposed a model that groups critical success factors into tactical and strategic factors to help in successful planning and implementing of Enterprise Resource Planning (ERP) projects. Project managers use appropriate models or methods to identify success factors to be considered for projects.

Stakeholders' form an integral part of projects as the project objectives are aligned to their interest. One warning sign of project failure is no stakeholder participation (Kappelman, Mckeena and Zhang, 2006). There are different groups of stakeholders

who have different perceptions on the to success of a project. The perceptions of success differ among senior managers, project team and the recipients (Davis, 2014). The right stakeholders should be identified and engaged in projects. Stakeholder analysis helps to identify the behavior, interest, intentions and the resources they bring to the project as well as assessing their impact on project implementation (Varvasovszky and Brugha, 2000). Robertson and Alexander (2004) modeled how the right stakeholders can be identified for a project by using a stakeholder concerns survey. A role based approach is also a good way to identify the right stakeholders for projects (Achterkamp and Vos, 2008). The role of stakeholders in the success of projects makes it important to properly manage them to get their contribution to project success. The needs of stakeholders should be properly assessed and there should be timely and effective communication with them (Drew et al. 2009). Karlson (2002) proposes a six step approach to effectively manage project stakeholders: initial planning, identification, analysis, communication, action and follow up. Stakeholders use different strategies to make them important to a project: conflict escalating strategy, coalition building strategy, credibility building strategy, resource building strategy and direct action strategy (Aaltonen, Jaakko and Tuoamas, 2008). According to Luyet (2012), stakeholders can be put in groups based on their interest and given some level of involvement in projects.

In recent times, organizations are shifting from Information Technology (IT) systems that are custom made to Enterprise Resource Planning (ERP) solutions which are considered to be of high quality, comes at a relatively lesser cost and readily available for easy and fast implementation. ERP system is an integrated software package that manages the resources of an organization. The system harmonizes all the functions and departments of the organization into a single unit run on a

computer system (Dezdar and Ainin, 2011). Investments in ERP in most organizations are the largest in terms of cost that the organizations have ever made in their history (Sumner, 2000).

However, firms that implement ERP projects report that one third of the projects fail to achieve success (Kim and Hong, 2002). The case is not different in Ghana as more and more businesses prefer off the counter IT solutions. Once there is successful implementation of ERP projects, the system shapes the processes of the organization, makes the organization very effective, boosts its performance and enables the organization to better serve its customers (Sandoe et al. 2001). Dezdar (2012) identified senior management support, project management, ERP vendor support, user training and education and enterprise wide communication as the critical success factors of ERP projects.

Studies conducted by (Liang and Guo, 2017) (Rajablu and Yusoff, 2014) suggest that, the role of stakeholders in project success cannot be downplayed. However, there are critical questions that beg for answers. Are stakeholders adequately involved in projects in Ghana? If they are not, what effect does it have on the success of projects in Ghana? These are the questions this study will help to answer.

1.2 STATEMENT OF THE PROBLEM

Stakeholder involvement has become more of rhetoric than an operational word in projects such as Voluntary Environmental Programs (VEP) in the U.S (Carmin et al., 2003). Projects consist of different stakeholders who have conflicting interest and expectations of the project. Not all the expectations can be met. Proper management of the interest and expectations of the key stakeholders goes a long way to affect the project success or failure. Stakeholders have to be involved in the planning of

projects (Heravi, Coffey and Trigunarsyah, 2015). There is significant effect of user involvement on the success of a system (Bano and Zowghi, 2015). Some Staff of the Teachers Funds have lamented on their involvement in the implementation of the Oracle software citing the level of their involvement as inadequate.research on the topic. The study will also ERP projects have become synonymous with failure (Kappleman et al., 2013:2006). According to Kim and Hong (2002), a third of all ERP projects fail. Recently in Ghana, the infamous SSNIT software scandal is enough evidence to suggest that, ERP projects do fail in Ghana. The failure rate of projects is high when the size and scope of the project is very large (Patanakul, 2014). The failure of projects brings huge losses to the organizations in terms of cost and causes them to loose competitive advantage. Teachers' fund of GNAT is a private solidarity fund established in 1998 to supplement the retirement benefits of teachers, provide personal loans to teachers, habitat loans to teachers and investment opportunities to its customers. The fund in its bid to improve service delivery, minimize cost in the long term and keep to modern trends in doing business procured an Oracle Enterprise Resource Planning (ERP) system to achieve these objectives. Failure of the system will cause huge losses to the organization.

Many factors contribute to the success of every project (Love et al., 1999). In project management circles, these factors are referred to as Critical Success Factors (CSFs). A lot of studies have been conducted by researchers to identify some of these factors. Some of these research were conducted by (Hong and Kim, 2002) (Holland and Light, 1999) (Umble, Haft and Umble, 2003) (Fui-Hoon Nah and Lee-Shay Lau, 2001) (Tarhini, Ammar and Tarhini, 2015) (Ram and Corkindale, 2014) (Leyh, 2014) (Garg and Agarwal, 2014) (Dezdar, 2012) and (Kateb et al. 2015). The researchers used different methods and approaches to identify the factors. The

conclusions of the studies on Critical Success Factors are contrasting based on the approach used by the researcher. There is no consensus on CSFs.

Pal et al. (2016) reviewed some literature on challenges faced in implementing ERP projects and grouped the challenge into Change management, Knowledge management, Technology selection and emerging technology. Organizational change management impacts the success of projects

(Hornstein, 2015). Nine factors were found to challenge the implementation of ERP projects (Momoh, Roy and Shehab, 2010): Dilemma of internal integration, Excessive customization, Lack of change management, Hidden cost, Limited training, Lack of top management support, Poor data quality, Misalignment of business with IT of business, Business requirement.

Developing countries like Ghana has its own challenges in terms of the economy, infrastructure, and human resource skills. All these factors affect the success of projects undertaken in such economies. Literature on the impact of stakeholder involvement in project success focus on developed economies which have good infrastructure, developed economies with adequate human resource. Little of the literature has focused on developing economies and Ghana to be specific. This study will help to fill the research gap that exists.

Staff and major stakeholders of the Teachers Funds have outlined the challenges they face as a results of what they perceive to be as a result of their inadequate involvement in the implementation of the Oracle software implementation. Some of these challenges have to do with how the change from the old system to the new system is managed, the ease of using the system which translates into transaction time and integration of the old and new system. These challenges have also

necessitated this study to assess stakeholder involvement on ERP project implementation success.

1.3 AIM AND OBJECTIVES OF STUDY

1.3.1 Aim

The aim of the study is to assess the effect of stakeholder involvement/commitment on Enterprise Resource Planning (ERP) project success in Ghana.

1.3.2 Objectives

In order to achieve the stated aim, the following objectives were set:

1. To establish the level of stakeholders' involvement in the implementation of ERP projects in Ghana.
2. To examine the underlying challenges militating against the implementation of ERP projects in Ghana.
3. To explore the critical success factors underpinning the implementation of ERP projects in Ghana.
4. To assess stakeholder involvement on ERP project implementation success in Ghana

1.4 RESEARCH QUESTIONS

1. What is the level of stakeholders' involvement in the implementation of ERP projects in Ghana?
2. What is the underlying challenges militating against the implementation of ERP projects in Ghana?
3. What are the critical success factors of underpinning the implementation of ERP projects in Ghana?

4. What is stakeholder involvement on ERP project implementation success in Ghana?

1.5 SIGNIFICANCE OF THE STUDY

This research seeks to assess stakeholder involvement on ERP project success. Relevant literature on stakeholder involvement would be reviewed to buttress the evidences that both internal and external stakeholders of any organization play a significant role in projects success. The recent infamous operational software scandal that hit Social Security and National Insurance Trust (SSNIT) Ghana has made this research more relevant. Enterprise Resource Planning (ERP) implementation poses certain challenges in Ghana and Africa as a whole. The study will be useful to Teachers Fund and other financial organizations in their future software implementation projects in improving operational efficiencies. Regarding the fact that, most studies available conducted on software implementation projects were in the United States and Europe as confirmed by the 2013-2015 chaos report (Standish Group, 2013-2015). The findings of this research will add to existing knowledge on project stakeholder management as a project management knowledge area in Ghana.

1.6 SCOPE OF STUDY

Many projects are carried out on a daily basis in Ghana. Out of the numerous projects that exist, the study adopted a case study approach which provides an in-depth understating of the topic under study. The Oracle Enterprise Resource Planning (ERP) project of the teachers' fund was considered for the study. Teachers Fund was founded in 1998 by the Ghana National Association of Teachers as a private solidarity fund. The fund currently has three subsidiaries namely: Teachers fund credit mall, Teachers fund financial services and Teachers fund properties. The fund serves the needs of all teachers across the length and breadth of the country.

Considering the fact that organizations in Ghana are adopting ERP systems to improve their business operations, it is appropriate to use an ERP project for this study. Organizations seeking to acquire ERP systems will be guided by this research. The size and scope of the project means that the findings of the study can be generalized for the entire population of projects in the country.

1.7 METHODOLOGY

A quantitative research methodology is used in the study to collect and analyze data. A quantitative approach helps to determine the relationship between dependent and independent variables in a population under study. Research design basically connects the conceptual research questions to the methods that are used to collect and analyze data to answer the research questions. Burns and Grove (2003:195) define a research design as "a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings". A research design is a sketch which is planned prior to the commencement of a research study. The design guides the research to be carried out to achieve its intended results. The design should therefore have some characteristics such as objectivity, precision, reliability, generality and validity to make it a good design (Farooq, 2013). Descriptive research design was used for this research study. Descriptive research study can be carried out in three distinct ways. They are survey, observational and case study. The case study approach was adopted for this study since this approach provides an in-depth study of an individual or a group of individuals. The population is a group of individual person, object or items from which samples are taken for statistical measurement. The population of the study consists of all staffs, teachers and all district GNAT secretaries. A purposive sampling method was used to sample the respondents of the study. Due to logistical and resource constrains 75 respondents, comprising 19

district GNAT secretaries and 56 staff of Teachers Fund were sampled. Ethical considerations were made in data collection as respondents' data were kept anonymous. Primary data was collected using structured questionnaires. Descriptive analysis tools such as tables and charts were used to present the findings of the primary data. Regression analysis using Statistical Package for Social Science SPSS was used to assess stakeholder involvement on project success.

1.8 STRUCTURE OF THE REPORT

The study is organized in five chapters. Thus, Chapter one is the introductory chapter which gives a complete background of the study, the problem statement, research objectives and questions, significance of the study. It also states the scope and organization of the study. Chapter Two deals with theoretical and empirical literature review of the subject matter. Chapter Three focuses on the methodology used for the study. This chapter covers the various methods the study that will be used in collecting data, sampling techniques and how data would be analyzed to meet the intended objectives of the work. Chapter Four will deals with the analysis of data and assesses whether the stated objectives of this study was achieved. How data was analyzed with the use of tables generated by SPSS to enable the researcher to draw valid conclusion. Chapter Five captures a summary of the findings and concludes the study with some relevant recommendations and suggestions for future research work.

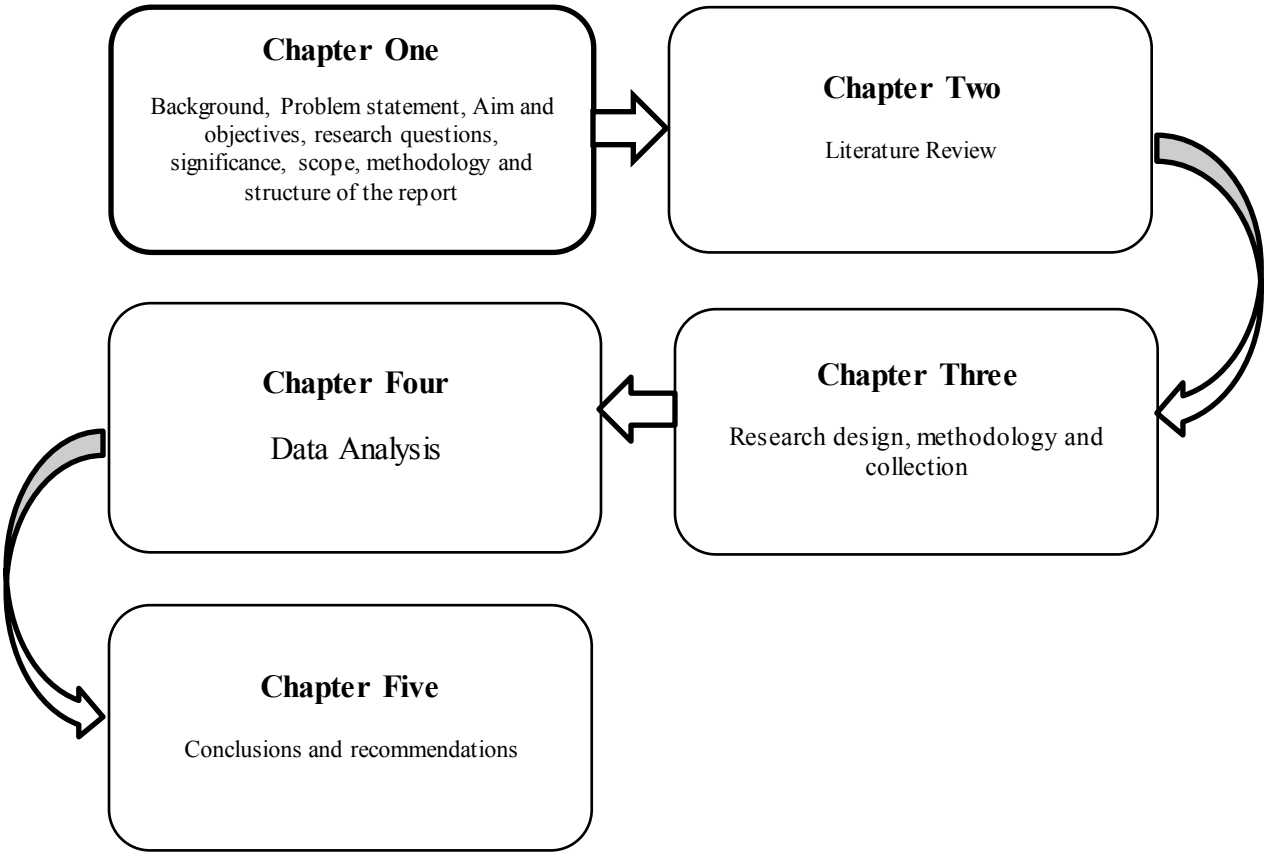


Figure 1.0 Structure of report

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

There has been extensive study on the subject of effects of stakeholder involvement on project success. Most of the studies have looked broadly at project success and also focused on developed countries other than Ghana. This study narrows the scope to Enterprise Resource Planning (ERP) projects in Ghana. This chapter of the study reviews some of the relevant literature of the topic both theoretically and empirically. The theoretical literature focused on two theories that support the study: Stakeholders theory and Information system success theory. Empirical literature reviews some of the earlier studies done on stakeholder involvement on ERP project success.

2.1 THEORETICAL REVIEW

The study is supported in theory by the stakeholder's theory and Information System (IS) success theory. Both models help to deeply understand the relationship between firms and stakeholders and also to assess the impact of inadequate stakeholder involvement in ERP project success in Ghana.

2.1.1 Project Stakeholder

A project stakeholder is any individual or an organization that is actively involved in a project, or whose interest might be affected positively or negatively as a result of project execution or completion (PMBOK 6). Stakeholder by definition, is any group or individual who can affect or affected by the achievements of the organization's objectives (Freeman 1984, p. 46). Research have it that groups or individuals have a distinguish association with organizations. Anyone who has an interest in the process or outcome of the project is a stakeholder of that project

(Fewings, 2005). This study considers as relevant the use of both the project and corporate stakeholders of the project definitions. Stakeholder management experts proposes that in any case, a pragmatic approach to the stakeholder definition has to be established, and it is necessary to be aware of the purpose when using a specific definition. Stakeholders are view as the representatives, direct or indirect, who may have an interest and can make an input to the planned project (Smith et al., 2001). Project stakeholders are defined as any individual or group who have some rights, interest, some level of ownership in the project, can provide inputs in a form of knowledge or support or can impact or be impacted by the project (Aapaoja et al., 2014). Winch (2002) highlights that, stakeholders are the internal and external players who will incur a direct benefit or loss as a result of the project. Addressing the desires and expectations of project stakeholders contribute to the successful execution and achievement of project objectives (Atkin et al., 2008). The project team has the mandate to identify, engage and communicate to stakeholders of the project based on their interest, involvement, influence and their potential impact on the project success (PMBOK 6).

Project management experts advise that; essential stakeholders have to be identified at the early of the project. Stakeholders identified later in the course of the project would definitely request for changes that may lead to project delivery delays, which are costlier and difficult to integrate into the project (Mulcahy, 2013). Sharp et al., (1999) proposed an approach to identify system specific stakeholders. They referred information system (IS) Users, Developers, Decision-makers and legislators as baseline and other stakeholders as satellite stakeholders. A diagram was used to represent how baseline and satellite stakeholder interact and relates with each other. The figure 2.0 below illustrates how main stakeholders are identified.

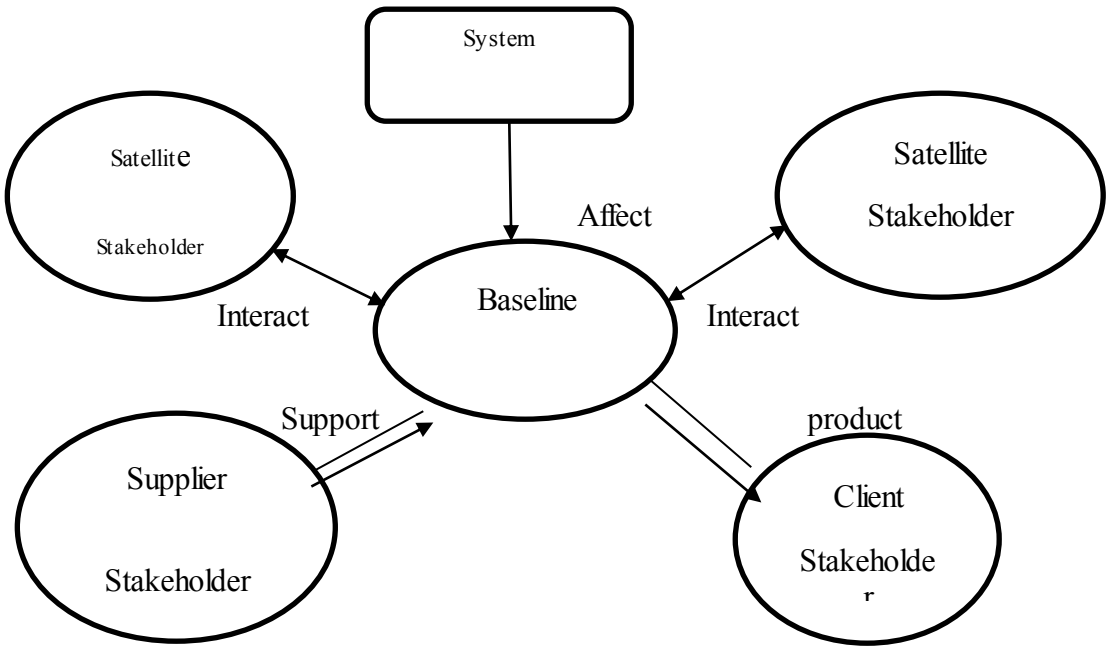


Figure 2.0 Main Elements of Stakeholder Identification (Sharp et al., 1999)

Mitchell et al., (1997) in their stakeholder salience model, proposed that power, legitimacy and urgency are three parameters that stakeholders should be classified.

Power- Project stakeholders' ability to influence outcome of the project.

Legitimacy- Stakeholders' authority or level of involvement/commitment in the project.

Urgency- Stakeholders' expectations for responsiveness to their needs and request.

They represented the stakeholder salience model with a diagram. The figure 2.1 below shows stakeholder salience model.

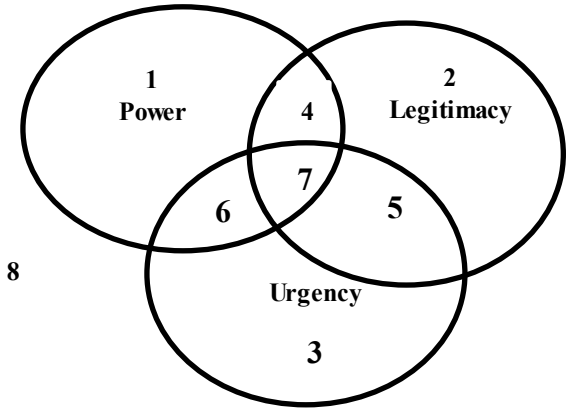


Figure 2. 1 Stakeholder Salience Model (Mitchell et al., 1997, p. 872)

The salience model was used to classify stakeholders' behavior into eight personality traits as follows: latent, discretionary, demanding, dominant, dependent, dangerous, core and non-stakeholders.

Johnson and Scholes (1999) developed the stakeholder power and interest model to examine organizational strategy. The model categorized stakeholders into four groups namely **A**, **B**, **C**, **D** and show how every group in a particular category should be treated. The model summarizes each as follows;

Group A- Stakeholders have high power and low interest on the project. They can have a significant effect on the project if they resolve to use their power.

Group B- Stakeholders have high power and high interest on the project. These are key stakeholders for the project who have a direct interest and are involved in the project. They can adjudge the project a success or failure (Cadle and Yeates, 2008).

Group C-Stakeholders have high interest and low power. Though they are affected by the project, they are not able to exercise much influence on the way the project should go.

Group D- Stakeholders have low interest and low power on the project. They are the stakeholders who have no interest nor power to influence the outcome of the project. Cadle and Yeates (2008) suggest that these stakeholders cannot be ignored completely since their position may change in the course of the project. The figure 2.2 below illustrates the stakeholder power and interest model that enable project managers to find out how to manage project stakeholders.

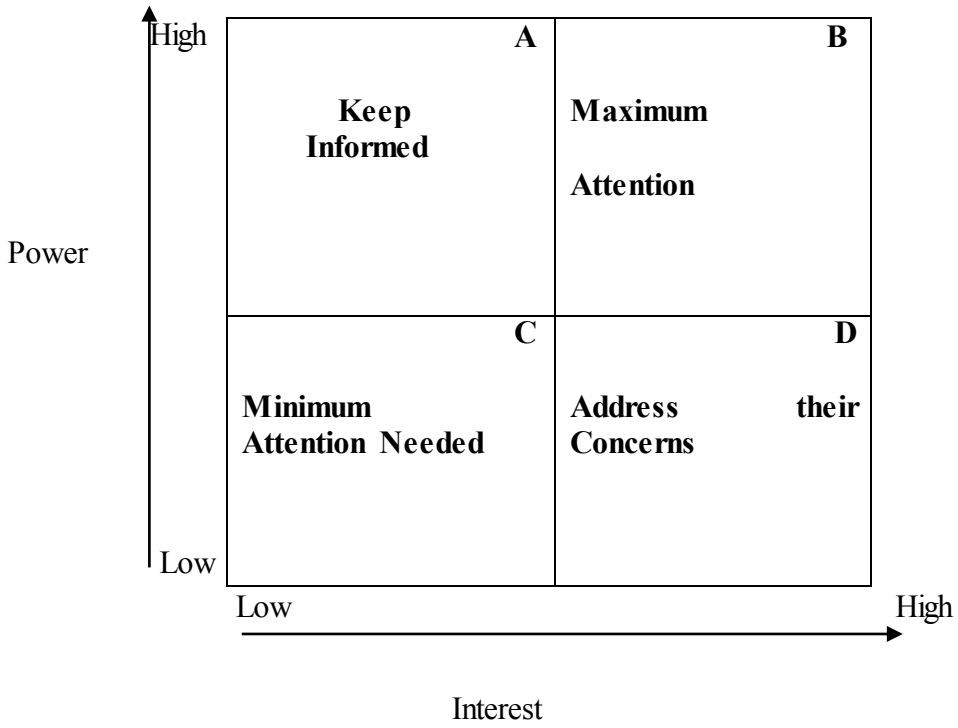


Figure 2. 2 Stakeholder Power and Interest Model (Johnson and Scholes, 1999)

In the 1990s, a study was conducted on information system (IS) stakeholders to solicit their opinions on projects success criterion (PSC), the findings published in the International Journal of Project Management revealed that all projects should provide value to the project Sponsor. Customer acceptance and delight is likely to increase at the end of the project when stakeholder expectations are managed from project conception to project delivery (Baker, 2005). Hartman and Ashraf (2002)

conducted a survey on 36 project stakeholders of 12 projects across Canada. The findings of the study concluded that there is the need to identify and manage stakeholder expectations to achieve project success.

2.1.2 Stakeholder Theory

Freeman (1984) found the importance of stakeholders to an organization and developed a model which showed all the stakeholders of an organization and described the stakeholders as the life support of the organization. The model originally contained eleven stakeholders but the model which is widespread contains seven stakeholders. The model is represented with a diagram with the firm or organization in the middle and the stakeholders surrounding the firm. Arrows which point in both directions show the relationship between the firm and the stakeholders. This implies why Teachers Fund should involve it stakeholders in the implementation of the Oracle ERP. The figure 2.3 below shows the stakeholders theory.

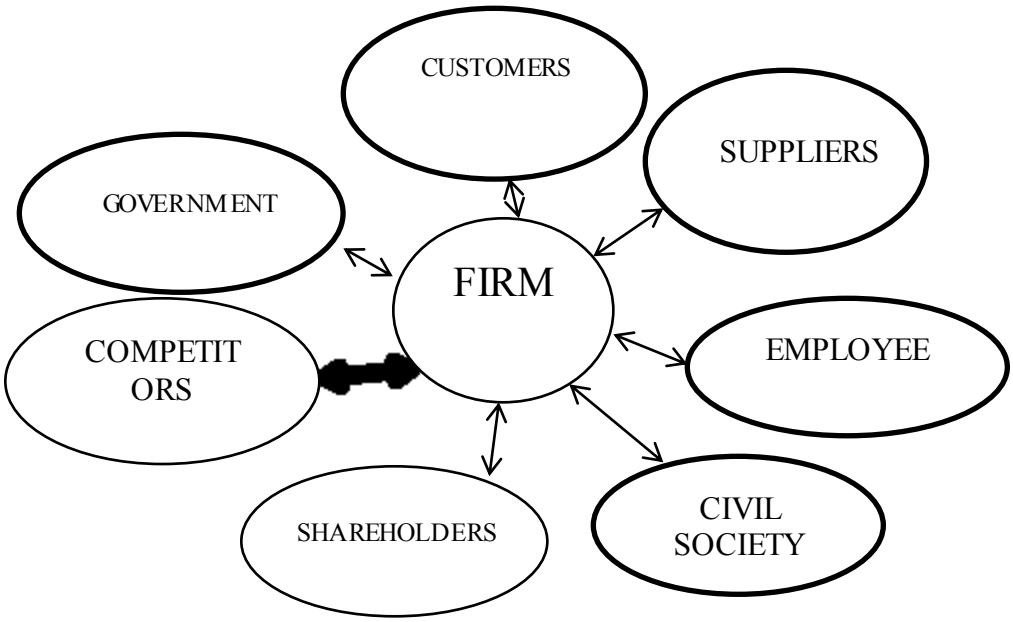


Figure 2. 3 Stakeholders model (Freeman 1984)

2.1.3 Information System Success Theory

Delone and McLean (1992) developed the Information System (IS) success model. The model was purposely developed to create a framework for planning and implementing information systems successfully. The model measured the success of an information system. The model groups the success of IS into system quality, information quality, use and user satisfaction and organizational impacts. According to the model, system quality measures the technical success of the system, information quality measures the meaning of the language or the quality of the information generated from the system and use and user satisfaction measure how the system affects the individual of the organization. The organizational impact also measures the productivity success of the organization, that is, how well the system enhances productivity in the organization. The model suggests that all the six components of the model are dependent on each other.

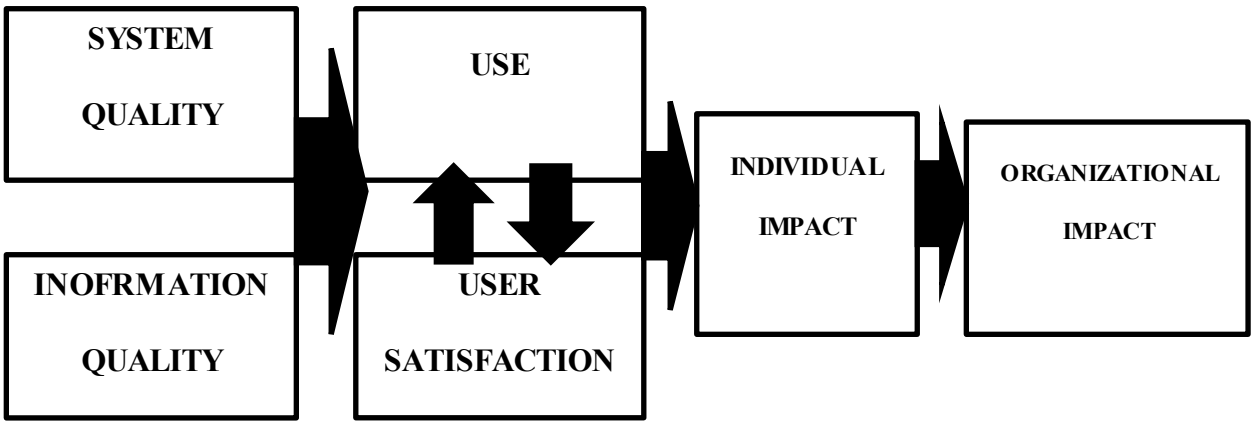


Figure 2. 4 Delone and McLean (1992) Information System (IS) success model

Based on criticisms from researchers on the model, the original developers of the model made modifications to address the concerns raised by other researchers. In the updated model, the quality of the system is divided into three namely: System

quality, Service quality and Information quality. The use is also put into intension to use and use, according to the researcher intension to use is

attitudinal while the use is behavioral. The model also defines the net benefits of the system as the positive benefits derived by the owners of the system. The dimensions of the model are linked by arrows indicating the relationships between them. Below is a figure of the updated model.

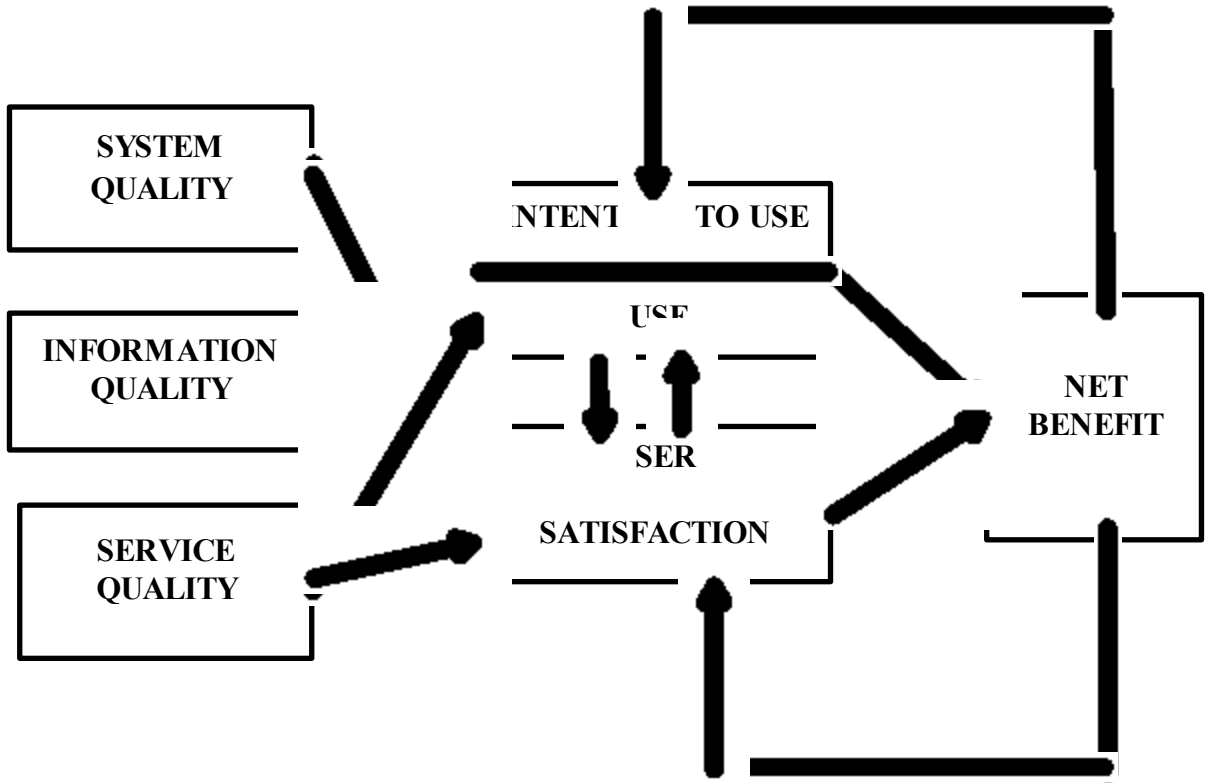


Figure 2. 5 Updated Delone and McLean Information System (IS) success model

2.2 EMPIRICAL REVIEW

2.2.1 Concept of Enterprise Resource Planning (ERP)

Klaus et al. (2000) defines an ERP as a complete software package that consolidates the entire business processes of an organization into a single IT system. ERP systems were previously adopted in large manufacturing, aerospace, construction sectors but

due to its wide acceptability, it has been adopted in finance, education, retail and telecommunication sectors (Snyder and Chung, 2000). Moon (2007) defines ERP system as system designed to harmonize and get the best out of all business processes and transactions in an organization. ERP evolved from inventory management systems used in the 1960's (Snyder and Chung, 1999). Implementing ERP comes with cost and complexity but eventually cause a change in the organization (Ramayah and Annamalai, 2011). ERP ensures communication between all the departments in an organization though a common system (Vayyavur, 2015). ERP connects not only organizations internally but also to key stakeholders as customers and suppliers thus the integration goes beyond the borders of the organization (Zeng et al. 2012). ERP adoption has moved from only large companies as it used to be, Small and Medium scale Enterprises are also adopting ERP. Vendors of ERP have made system that suits SMEs. The primary aim of businesses adopting ERP is to enhance their business processes and give them competitive advantage.

2.2.2 Critical Success Factors of ERP Projects

Nah and Zuckweiler (2003) conducted a survey on Chief Information Officers of 1000 companies to identify some critical factors of ERP implementation. The researchers concluded that top management support, project management, project champion, ERP teamwork and composition and change management were the critical success factors of ERP implementation. Kim and Hong (2002) conducted a field survey on 34 organizations and found organizational fit and implementation occurrences as the critical success factors of ERP project implementation.

Ngai et al. (2008) researched across 10 countries using an empirical research methodology. The researchers identified eighteen (18) critical success factors of ERP implementation. However, across all the 10 countries sampled for the study, top

management support and training and education had the highest frequency. Finney and Corbett (2007) compiled CSFs using 45 articles selected based on a review of abstract. The researchers found a gap in researchers that CSFs of ERP implementation did not consider the key stakeholders. Change management was one of the most sighted CSFs.

Madsen and Ehie (2005) outlined some critical factors that contribute to successful implementation of ERP projects. The researchers opined that ERP should be considered as a total business transformation solution and not just an IT solution. They also identified top management support and in-depth understanding of project management principles as the drivers of successful ERP implementation.

A study conducted in Ghana by Frimpon (2012) modeled CSFs using what he termed a role based approach. In the researcher's model, he identified 28 Critical Success Factors and grouped them into five roles which were: Top management support, technology management, process management, change management and project management. Gebremedhin (2017) assessed ERP implementation in Ethiopia using a case study approach of a brewery and found six factors which include: top management support, competent project team, consultant involvement, effective communication among departments, training and education of users and reorganizing business processes as the critical success factors. Abukhader (2015) studied the implementation of ERP projects in Saudi Arabia using a questionnaire method. The findings were that top management support contributed significantly to the success of ERP projects in hospitals while change management contributed minimally to the success of ERP projects.

Leyh (2014) conducted a study to identify some of the critical success factors to ERP implementation. The researcher focused on SMEs in Germany. The researcher conducted the study through interviewing German SMEs and ERP consultants. The conclusions made were that, for small organizations organizational fit and ERP system test were the critical success factors while for larger organization technological factors, project management and top management support were identified. Leyh and Sander (2015) reviewed relevant literature on critical success factors of ERP and identified 31 distinct critical factors of which top management involvement, project management and user training ranked top of the factors. Ali and Miller (2017) reviewed literature on ERP system using the ERP lifecycle framework; the researchers found good project management, top management support, good project management and good communication as the critical success factors of implementing ERP projects.

Garg and Chauhan (2015) used the structured equation modeling (SEM) approach to investigate the effect of organization, technological, people and project management factors on successful implementation of ERP projects. A survey questionnaire was administered to project consultants, managers, sponsors and team members of ERP implementation. The conclusion made was that a significant and positive relationship exists between all the factors and ERP implementation success.

Ozorhon and Cinar (2015) conducted a study to identify critical success factors ERP in the Turkish construction industry. A total of 14 CSFs were identified through literature review and subjected to analysis through administering questionnaire survey. Top management support, defined aim and objectives, capable project team, a competent project leader was identified as the most significant factors among the lot. Candra (2012) used an online survey of 46 respondents to assess the impact of

Knowledge capability on ERP implementation success; the researcher concluded that knowledge capability is significant to the success of ERP implementation.

Nah and Delgado (2006) used the Markus and Tanin's four-phase model after identifying some seven critical factors through extensive review of literature. An analysis was done on the factors identified to assess their importance at every stage of ERP implementation. The researcher found business plan and top management to be vital at the planning phase. Project management, system implementation and ERP team composition to be vital at the project phase. Change management and communication was identified to be very important at the testing phase of the systems implementation. ALdayel et al. (2011) conducted a study in Saudi Arabia using a case study of a university ERP implementation, the researchers found project management as a critical success factor in ERP implementation.

2.2.3 Explaining the Challenges of ERP Implementation

Implementation of ERP projects are face with a lot of challenges, this section of the chapter will review some of the relevant literature on the challenge of ERP implementation. Sheu et al. (2004) used a case study approach and secondary data to assess some issues that are critical to successful implementation of ERP projects globally. The researchers concluded that politics, country regulations, management style, labor skills, language and culture affects ERP implementation. Huang and Palvia (2001) compared implementation challenges of ERP implementation for developed and developing countries and found that, developing countries face extra challenges such as economic challenges, basic infrastructure challenges and cultural challenges.

A study conducted in India to identify some challenges encountered by SMEs in implementation of ERP projects identified four factors: improper planning of project, poor system implementation, excessive customization and undefined scope of the implementation (Dixit and Yadva, 2011). Gholami et al. (2015) conducted a research in Iran to identify some challenges faced by Iranian organizations. The researcher used a case study approach and administered questionnaires to employees of the organization and conducted interviews. The results they found was that lack of human resource and some factors related to technology challenged companies in implementing ERP projects. Thakur (2016) concluded that organizational culture is a challenge in implementing ERP projects in technical educational institutes in India. Eyitayo (2014) identified culture as a challenge in implementing ERP projects in Botswana.

Ghosh (2002) analyzed the challenges of ERP implementation from a global perspective. Since ERP system is developed in a different country and may be implemented in an organization in a different country, the researcher identified lack of skilled implementers, contrasting interest of businesses, difference in regulation and requirements of countries, reporting from a single installation point to corporate headquarters as some of the challenges faces by ERP implementation.

Maditinos at al. (2011) researched in to the challenges of implementing ERP in Greece. The researchers administered questionnaires to companies that have implemented ERP to solicit responses. They found that knowledge transfer was a major challenge of ERP implementation. Lack of top management support and conflict among members of the organization was also a challenge. Ramburn and Seymour (2014) researched into the challenges of ERP implementation using structured questionnaires. The data was subjected to thematic analysis and findings

made. The researchers found lack of technical knowledge and lack of technical knowledge as some challenges of ERP implementation. Idris (2014) conducted a research in Kenya to identify some challenges of ERP implementation among organizations that had implemented ERP. The methodology used was to solicit responses using both structured and unstructured questionnaires. The data collected was analyzed and duration of complication of system and customization was identified as challenges faced by Kenyan firms that implemented ERP. Ibrahim (2010) reviewed literature on ERP implementation and identified integrating ERP with the already existing system of the organization into one system as the major challenge.

Fernandez et al. (2018) conducted a study in Malaysia to identify the challenges faced by local authorities in implementing ERP. 52 authorities were sampled and questionnaire survey was used to collect data. The researchers found the complex nature of the internal structures of the authorities as a hindrance on ERP implementation. They went further to identify the work culture and ability to adapt to change as challenges of ERP implementation.

Otieno (2008) researched into the challenges of ERP implementation in Kenya. The study targeted organizations that had implemented ERP. Questionnaires were administered to collect data. In total 69 questionnaires were used and 51 were valid for analysis. The researcher used factor analysis and found six main challenges: High cost, poor change Management, complexity of system, unskilled consultants and users, substandard ERP software and integration and staff turnover.

A research done in India to review ERP implementation by Annamalai and Ramayal (2011) by collecting data through interviews of Indian firms that had implemented

ERP reveal that employee resistance, employee turnover, customization and regular changes of system challenged the implementation of ERP in India. Gandhi and Sarukesi (2015) researched on the apparel industry in Bangalore that had implemented ERP using the questionnaire method. 117 responses were collected and analyzed the finding made was that resistance to change challenged the implementation of ERP.

Bett (2018) researched the challenges and prospects of ERP implementation in some new universities who were granted charter. The researcher distributed questionnaire to employees of various departments of the universities. The data collected were then analyzed. The researchers found lack of user training and failure to align business processes to the ERP as the major challenges faced in the universities.

2.2.4 Stakeholder Involvement in ERP Projects

Kock et al. (2013) researched into the behavior of stakeholders on the success of project management portfolio of 197 projects. The researchers investigated the impact of intensity of engagement of internal stakeholders such as senior managers, line managers and project portfolio managers on project success. The researchers found a positive and significant relationship between intensity of engagement of line managers and project managers while an insignificant and negative relationship exists between intensity of engagement and senior managers.

An empirical research conducted by Tait and Vessey (1988) to investigate the relationship that exist between user involvement and system success. The findings made by the researchers were that a strong effect exists between user involvement and system success. The researchers also found that complexity of the system and resource constraints affect system success through user involvement. Frolick and

Barker (2003) asserted that a successful implementation of an ERP project will only be possible if all employees and those who will use the system are involved, appreciated, kept and overseen.

A study was conducted by Frolic et al. (2008) to identify how stakeholders influence ERP implementation. The researchers used a case study approach and collected data using questionnaires, interviews and literature reviews. The researchers found that end users are critical to ERP implementation, top management needs to consider the role end users play in a successful ERP implementation.

Joslin and Muller (2016) researched into the relationship of project governance and success; the researchers used an online survey of 254 respondents. The conclusions they made was that stakeholder orientation was positively related to project success.

Bano and Zowghi (2013) used the systematic review approach to review relevant literature to user involvement and system success. In all, 87 literatures were reviewed and the conclusion the researchers made was that user involvement has a positive impact on system success.

Nelson (2007) published 99 post-implementation reviews conducted in 74 organisations on Information Technology (IT) projects over a period of seven years. The study highlighted inadequate stakeholder in projects as one of the biggest contributors of project failure.

Smith et al., (2004) suggest an approach called the Strategic Needs Analysis (SNA) that focuses on stakeholder involvement in gathering a clear and workable requirement at the early stage of the project. This will enable the project team to integrate stakeholder opinions, desires and expectations into the projects at the conception stage.

Jiang et al., (2006) conducted a study on the effects information system (IS) user partnering and non-user support on project performance. The researchers administered questionnaires and randomly mailed to 500 members of Project Management Institute (PMI) in the U.S who has interest in purchase of special information system. The analysis was based on 170 respondents who answer the questionnaire and responses from a follow up interviews. The researchers affirm that there should be a predetermined partnership between information (IS) users and the project. The study further suggests that non-support of users may lead to project failure.

A study was conducted by Kujala et al., (2005) to investigate the role of user involvement in shaping user requirements for ERP projects. The study targeted 18 software practitioners involved in the development software projects in 13 organisations in Finland through a survey and interviews. The researchers found that user involvement in requirement gathering has a positive effect on quality requirement and project success.

Zwikael (2008) conducted a study where questionnaires were developed and distributed amongst 700 project managers from Japan, Israel and New Zealand in 7 industries. That study was conducted to ascertain the correlation between top management involvement and project success. The study concluded that top management involvement contributes significantly to project success.

Existing information technology (IT) literature has identified top management commitment as very critical to the success of information technology (IT), this applies to Enterprise Resource Planning ERP project implementation (Bingi et al., 1999). Murray (2008) identified lack of top management and stakeholder

commitment among other factors that contributes to project failure. He stressed on the need for top management responsibility to ensure that everyone affected by a particular project to have a stake in the project ownership to make the project a success.

Peters (2017) outlined senior management commitment as a key ingredient that cannot be compromised in the implementation of Enterprise Resource Planning due to the significant role it plays in both the advanced and developing world.

Hossain and Shakir (2000) identified the client, the consultant and the vendor as the three main stakeholders involved in the selection and implementation of enterprise resource planning ERP projects. They concluded that, stakeholder involvement is not only important in the selection of project, but also crucial in ensuring success in the implementation and post implementation stage of the ERP system. Below is a figure of stakeholders involved in the selection and implementation of ERP projects.

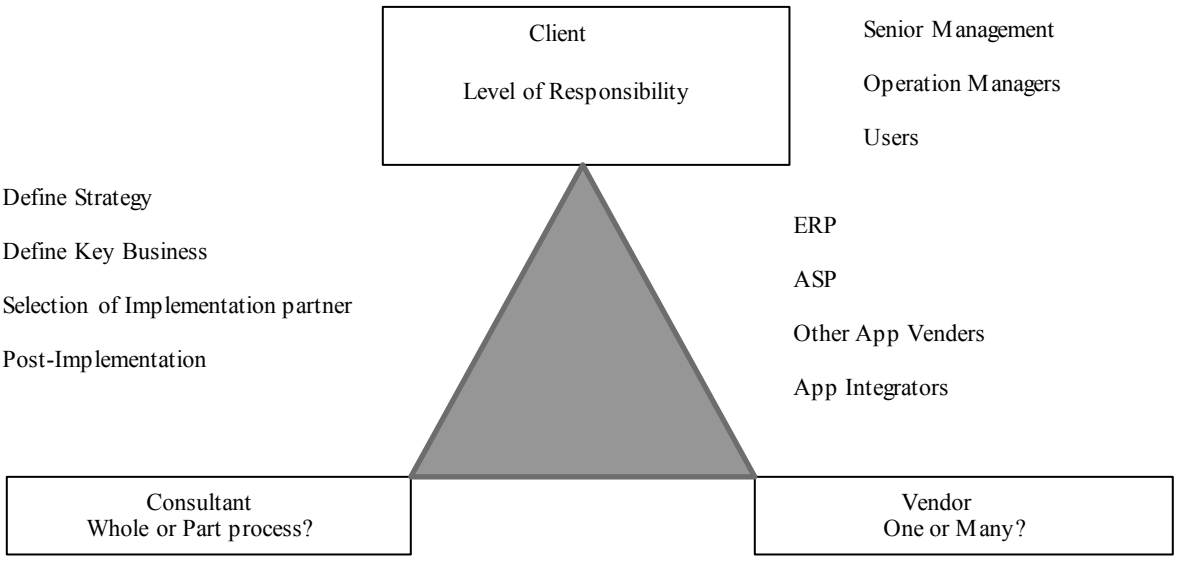


Figure 2. 6 Stakeholders involved in the selection and implementation of ERP projects (Hossain and Shakir, 2000)

Haines and Goodhue (2003) developed a framework based on the agency theory to illustrate how vendor involvement and the existing knowledge of the client will

influence the implementation outcome of Enterprise Resource Planning (ERP) project. Part of the framework was conducted through interviews comprising 12 companies. The study suggested that selecting an effective vendor and efficient use of existing knowledge and skills in-house, is crucial to Enterprise Resource Planning (ERP) project success.

2.3 CHAPTER SUMMARY

The theoretical and empirical review of the chapter indicated the relevance of project stakeholders. Earlier studies has highlighted why stakeholders should be involved in the planning and execution of ERP project. Addressing the desires and expectations of project stakeholders contribute to successful execution and achievement of project objectives (Atkin et al, 2008).

The project team has the mandate to identify, engage, and communicate to stakeholders of the project base on their interest, involvement, influence and their potential impact on the project success (PMBOK6).

CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION

This chapter discusses the methodology used by the researcher to achieve the objectives of the study. The methodology covers the research philosophy and position, research approach, research strategy, research design, population, sampling techniques and sample size, source of data, data collection tools and methods, reliability and validity of the study and ethical consideration.

3.1 RESEARCH PHILOSOPHY AND POSITION

Philosophy and social research are not mutually exclusive because, social researchers and scientist stick to foundationalism philosophy which asserts that justified beliefs are dependent on basic beliefs (Hughes and Sharrock, 2016). Developing a research philosophy mandates the researcher to make basic assumptions on natural science and society (Burrell and Morgan, 1979 as cited by Holden and Lynch, 2004). The underlying assumptions of research philosophy are subjectivism and objectivism which are contrasting in stance (Holden and Lynch, 2004). In objectivity assumption, social researchers tried and tested methods of natural science to explore social science while on the other hand, subjectivism assumption sharply contrast that view and see natural science and social science as incongruent (Hughes and Lynch, 2004). These assumptions form the basis for developing research philosophies which inform the choice of approach, strategy, design and methodology to achieve the research objectives. Research philosophies are classified as epistemology, ontology and axiology (Mkansi, 2012). Epistemology is the branch of philosophy that studies the essence of knowledge and how humans acquire knowledge (Holden and Lynch, 2004). Ontology is a branch of philosophy that deals with reality, its essence and

tries to give meaning to how humans perceive reality (Holden and Lynch, 2004). Ontology is a theory of reality regardless of our knowledge about it while epistemology is a theory of knowledge of reality (Uddin and Hamiduzzaman, 2011). Axiology is a branch of philosophy that study value and beliefs. Axiology has the stance that researchers have inherent values and beliefs that tend to influence the way they carry out their research (Hammond and Wellington, 2012: 11). Lewis and Ritchie (2003) groups research philosophies like positivism and interpretivism under epistemology classification and realism, materialism, critical realism, relativism, idealism under ontological classification. Bryman and Bell (2015) define positivism as an epistemological stance that promotes the use of natural science methods to study social reality.

This study adopted the positivist philosophy. The positivist philosophy believes that knowledge is only acquired through declaration and testing of existing well founded theories using scientific methods (Uddin and Hamiduzzaman, 2011). The study sought to assess stakeholder involvement on ERP project success in Ghana. The study is empirical and quantitative hence the adoption of this philosophical stance.

3.2 RESEARCH STRATEGY

Research strategy choice is made based on the research problem at hand (Yin, 1994 as cited by Amarantuga et al, 2012). Research can be done in three ways: qualitative, quantitative and mixed methods, the researcher chooses between these approaches based on the data type needed for the research (Williams, 2007). Quantitative research uses numbers to represent collected data for analysis using statistical tools while qualitative research uses descriptions and explanations to analyze collected data to write research reports. Both qualitative and quantitative strategies have their strengths and weaknesses. Hammond and Wellington (2012) asserts, qualitative

approach is inclined more towards inductive research approach while quantitative approach leans more towards the deductive approach for analysis. Another strategy which is seen to be superior to solely quantitative or qualitative strategy is the mixed method strategy which is a mixture of both strategies. The mixed method is considered superior because both data types complement each other to offer in-depth explanations and interpretations (Armantuga et al. 2012). Quantitative research strategy can be broadly categorized into experiment, descriptive and casual quantitative (Leedy and Ormrod, 2001 as cited by Williams, 2007). Qualitative strategy can be categorized into ethnography, case study, content analysis, phenomenological study and grounded theory (Williams, 2007).

This study adopted the quantitative research strategy based on the data needs of the study. A quantitative strategy helps to establish the relationship between a dependent and independent variable in a target population (Hopkins, 2008). The study used numerical data which was collected and analyzed using statistical tools to draw logical inferences.

3.3 RESEARCH APPROACH

According to Bryman and Bell (2015) research approach can be inductive, deductive or abductive. The inductive approach is employed in building theories and making logical conclusions whereas the deductive approach is employed in solely testing theories and disproving hypotheses (Bryman and Bell, 2015). In the deductive approach, hypothesis is tested and theories are challenged based on how the data of the research support the theory or hypothesis after conducting a well-designed research (Hammond and Wellington, 2012: 41). However, Hammomd and Wellington (2012) after considering the usefulness of the deductive research approach criticized by arguing that, it sometimes leads to invalid conclusion if there

are no critical examination of the concepts, procedures and the underlying theories of the research. The inductive approach is in sharp contrast to the deductive approach even though both of the approaches are based on theories, the inductive approach employs a bottom-up approach while the deductive approach employs the top-down approach in hypothesis testing (Wellington and Hammond, 2012: 87). Bryman and Bell (2015) asserts that, the inductive approach is employed to make logical conclusion about observation and develop theories. The inductive approach offers flexibility to the researcher and aids in the development of new theories (Hammond and Wellington, 2012). Glaser and Strauss (1967) expressed their opposition to the deductive approach of developing theories by proposing the Grounds theory of research which gave priority to the inductive approach. The abductive approach is based on practical considerations other than theoretical (Bryman and Bell, 2015). The inductive and deductive approach are preferred by researchers to the adductive approach (Spens and Kovács, 2006).

This study adopted the deductive research approach as the study sought to make some inferences on the data collected by testing some established theories. The conclusions will not lead to the development of new theories. Hence, the choice of this approach other than the inductive approach.

3.4 RESEARCH DESIGN

A research design is the structure of the research that joins the various components of the research and depicts how they interplay to answer the questions posed by the research (Trochim and Donnelly, 2001). A research design is a sketch which is planned prior to the commencement of a research study. The design guides the research to be carried out to achieve its intended results. The design should therefore have some characteristics such as objectivity, precision, reliability, generality and

validity to make it a good design (Farooq, 2013). Burns and Grove (2003) describe a research design as "a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings". The design presents a framework that encapsulates the research questions and the suitable methods that will be used for data collection and analysis.

For the purpose of this study, quantitative research approach was used. A quantitative design helps to establish the relationship between a dependent and independent variable in a target population and takes the form of an experiment or a descriptive design (Hopkins, 2008). Descriptive research study can be carried out in three distinct ways, they are survey, observational and case study. A descriptive approach is employed in this study and a case study approach was adopted for this study since this approach provides an in-depth study of an individual or a group of individuals.

A Case study is an in-depth study of the subject of a research. Survey research designs are distinct from case studies because surveys do not study the context in-depth (Hammond and Wellington, 2012). Case studies can be a single case that study only a single Case or example of the subject of interest in one location or multiple case study which studies more than one case or example of the subject of the research at different locations. Case study research are carried out in a particular context and researchers often overlook the in-depth consultation of the player within the particular context (Hammond and Wellington, 2012:16). According to Hammond and Wellington (2012) case study designs are suitable when the researcher can easily gain access to the context and has prior knowledge of the context and wants to know more about the happenings there.

The case study design adopted for the study is suitable because the researcher is part of the implementation of the ERP project and hence has access to relevant information that will help to draw valid conclusions and achieve the objectives set by the study.

3.5 POPULATION, SAMPLING AND SAMPLE SIZE

3.5.1 Population of the Study

The population of a study refers to the set of objects or individuals with similar traits from which the researcher draws samples for the study. The population is the entire group which the researcher has interest and draw conclusions about. As discussed above, the study employs the case study approach to achieve its intended objectives. Employee data retrieved from the human resource department of Teachers Fund indicated that, Teachers Fund operates with a total staff of 300. This number comprises staff of the Fund, staff of Fund subsidiaries and GNAT district secretaries who work as representatives of the Fund at various district across Ghana.

3.5.2 Sampling Techniques and Sample Size

Saunders et al, (2009) explains sampling techniques as a population reduction method used to restrict data collection to a sub-group of a population since it is almost impossible to collect data from every single individual or unit within a population in most cases. Sample size is the number of observations used in estimating a given population (Rams, 2012). The sample selected from the population of interest is representative of the population hence inferences drawn on the sample can be generalized for the entire population. The sample size selected for the study was 75 which comprise of 56 staff and 19 GNAT secretaries of the fund. The sample size was carefully selected based on availability of the respondents for

the study using Yamane's (1967) formula in calculating sample size. The sample is representative of the population as the respondents were fairly distributed among the departments of the organization. The researcher was interested in assessing stakeholder's involvement on the success of the ERP project. Therefore, staff who were directly involved in the ERP project were those mainly considered. The sample were carefully selected using a purposive sampling approach. The purposive sampling technique is a non-probability sampling which is often referred to as selective sampling, it is premised on the objectives of the study and the characteristics of the population. The researcher makes his/her own judgement as to the people to sample from the target population for the study. The sample selected comprises GNAT secretaries and staff of the fund. The sample were selected based on their role as stakeholders of the Oracle Enterprise Resource Planning (ERP) implementation of the Teachers Fund. The staff sampled included senior management staff, project managers and end users of the software. The district GNAT secretaries represent the interest of the teachers at the district level. The GNAT secretaries also benefit from the Fund and hence the purpose for their inclusion in the sample. The GNAT secretaries work under the operations department of the Teachers Fund. Below is the Yamane's formula adopted to come out with the sample size;

$$n= \quad \frac{N}{1+N(e)2}$$

Where **n** is the sample size, **N** is the population size, **e** is the level precision. Using a population size of 300 total staff of the fund, a level of precision of ± 10% and a confidence level of 95%.

3.6 DATA COLLECTION METHOD

Primary data was sourced through administering questionnaires to the respondents of the study. The researcher assisted the respondents by explaining the questions where they found difficulties in understanding the questions. The staff were presented with the questionnaire to fill. However, considering the location of the GNAT secretaries, the questionnaires were sent to them to fill and return to the researcher. The questionnaire used was a structured one which implied that the researcher provided a list of suitable responses for the respondents to choose from. The data collected from this approach is quantitative. Because the respondents were literate, that is, they can read and write, the researcher did not encounter many challenges in administering the questionnaires.

3.7 SOURCE OF DATA

Data for research study comes in the form of primary and secondary data. The study used both primary and secondary data. Primary data is the name given to data that are used for specific purpose for which they were collected.

Primary data was sourced from interviews, observation and questionnaire administered to the respondents of the study. As noted earlier, the study collected the primary data from the staff of Teachers Fund and GNAT secretaries. Even though primary data comes at a cost compared to secondary data, primary data is reliable because it is collected solely for the purpose of the study.

Secondary data is the name given to data that are being used for some purpose other than that for which they were originally collected. This type of data is documentary source out of which information relevant for the research was extracted from. Different types of secondary data sources were made use of, such as publications,

textbooks, presentations, Journals and websites. It came in the form of both soft and hardcopies.

3.8 DATA ANALYSIS TECHNIQUE

The objective of this study was to assess the effect of stakeholders' involvement on ERP project success in Ghana. The statistical package used for analysis of the data collected for the study was Statistical Package for Social Sciences (SPSS). Microsoft Excel was also used in the analysis to analyze the primary data collected with the questionnaire. The questionnaire was a structured one which contained open-ended questions. The responses were provided by the researcher for the respondents to make a choice. The analysis of data starts with editing and coding of the data to ensure a quality data free of errors. The data collected from the questionnaires were edited and coded into the SPSS software for analysis. Descriptive statistical tools such as Tables, graphs and charts were generated to analyze the data.

Regression analysis using the SPSS software was conducted to ascertain the relationship between stakeholder involvement (the independent variable) and project success (dependent variable). The other objectives of the study which included identifying the challenges of ERP implementation, and the critical success factors were also analyzed using the SPSS software.

3.9 TEST OF RELIABILITY AND VALIDITY OF STUDY

Validity of data measures if the study is measuring what it purports to be measuring. Data validity is improved by employing the right research design and analysis on the data collected. The sampling technique and sample size also contribute to an improved validity. The data collected for this study was relevant to achieving the objectives of this study.

Reliability of the study is broadly associated with the method used to collect data that leads to results that are accurate and consistent. The study is also said to be reliable when the same results are obtained when the study is repeated. The purposive sampling method employed for the study ensured that when different methods are used to analyze the data, the results obtained will be consistent with the results of this study.

3.10 ETHICAL CONSIDERATIONS

Ethical considerations were made for this study. The researcher explained to the respondents the purpose for the study and sought their approval before proceeding with data collection. The respondents were also assured of non-disclosure of their personal information. Where the name of a respondent has to be used, the initials were instead used to ensure anonymity. The researcher went according to the laid down ethics.

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION OF RESULTS

4.0 INTRODUCTION

This chapter of the research deals with the analysis of the data collected from the questionnaires distributed to the respondents of the study. The analysis of data ensures that, the data collected are well organized and presented for easy understanding. The analysis and discussion are divided into sub-sections that deals primarily with the objectives of the study. The first section presents how the questionnaires were distributed and the response statistics of the study. Cronbach's Alpha was used to test the reliability of the questions in measuring the project success of ERP implementation under the different dimensions and stakeholder involvement in the second section. The third section presents the analysis of the demographic characteristics of the respondents. The fourth section analyses and discusses the level of involvement of the respondents in the implementation of the ERP project. The fifth section of the chapter analyses the challenges associated with the implementation of the project. The sixth section analysis the Critical Success Factors (CSFs) of ERP implementation. The seventh and final section presents the analysis and the regression results of the effects of stakeholder involvement on the project implementation success in Ghana.

4.1 QUESTIONNAIRE DISTRIBUTION AND RESPONSE STATISTICS

The study used questionnaires as the data collection instrument. A total of 75 questionnaires were distributed to employees of teacher's fund to fill. Out of the total questionnaires all of them were returned to the researcher. This makes the response rate 100%. However, a critical examination of the received questionnaires showed that two questionnaires contained errors and incomplete hence they were excluded

from the analysis. The error rate was 4% making the overall rate of recovery 96%. The high response rate was made possible because the researcher made time to assist the respondents when they found difficulties in answering the questions. The researcher and respondents works in the same institution hence reaching them was very easy. The questions were also straight forward and so did not pose any problems for the respondents. The table 4.1 below shows a summary of the response statistics.

Table 4. 1: Response statistics

Questionnaire Administered	Number received	Response rate	Error/ Incomplete questionnaires	Error Rate	Overall rate
75	75	100%	2	4%	96%

Source: Field data, 2018

4.2 TEST OF RELIABILITY

The researcher adopted the Gable et al (2003) model which consists of four dimensions in measuring the success of ERP projects. The dimensions include system quality, information quality, Organizational impact and individual impact. Under each of the dimensions the respondents were asked multiple questions. The Cronbach Alpha was used to test the reliability and indicate how the questions under each dimension was strongly related. A Cronbach alpha of 0.7 or more is indicative of acceptable internal reliability (Nunnally, 1978). From table 4.2 below, the Cronbach alpha for all the four dimensions were found to be above the 0.7 mark. System quality had a Cronbach alpha of (0.915), individual impact with a Cronbach alpha of (0.830), organizational impact depicting (0.911) Cronbach alpha, information quality recorded a Cronbach alpha of (0.900) and Stakeholder involvement showing an alpha of (0.823) The reliability test results are in Table 4.2 below.

Table 4. 2 Test of reliability output

Dimension	Cronbach Alpha	Number of items	Acceptable?
System quality	0.915	4	Yes
Individual impact	0.830	3	Yes
Organizational impact	0.911	4	Yes
Information quality	0.900	4	Yes
Stakeholder Involvement	0.823	5	Yes

Source: SPSS output

4.3 CHARACTERISTICS OF RESPONDENTS

The questionnaires distributed to solicit responses from the respondents provided some demographic information of the respondents. This section of the chapter presents an analysis of the various demographic information including age, gender, academic qualification and the department they worked.

4.3.1 Gender of Respondents

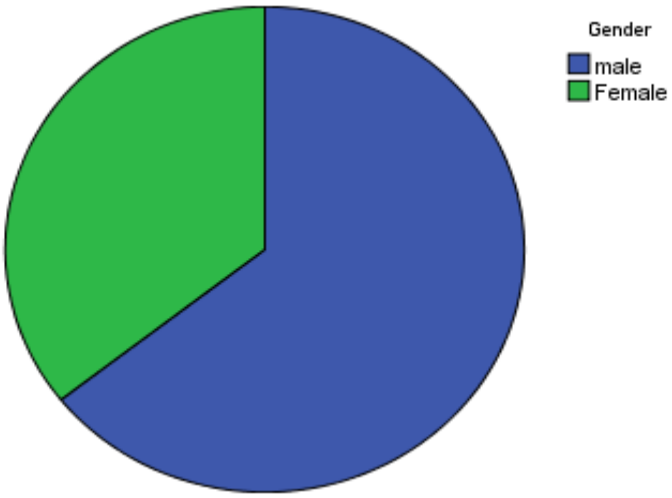
In total, 73 respondents completed and returned the questionnaires. The sample included both males and females. There were no biases in choosing the sample however the male gender dominated the sample. From table 4.3 below, the total number of males were 47 representing 64.4% of the sample while 26 females in total responded to the questionnaire representing 35.6% of the entire sample of the study. Majority of the respondents were males as it was the case when Mungai and Mwirigai (2016) did a study on the challenges of ERP implementation in Mombasa airport Kenya, 63.4% of their sample were males compared to only 36.6% for females. This shows that males are enthusiastic about IT projects compared to females. This also depicts that more males are employed in the Teachers Fund than females. The results are also presented in Figure 4.1 below in a pie chart.

Table 4. 3 Frequency table by Gender

Gender	Frequency	Percentage (%)
Male	47	64.4
Female	26	35.6
Total	73	100

Source: Field data, 2018

Figure 4. 1 Frequency distribution by gender



Source: Field data, 2018

4.3.2 AGE OF RESPONDENTS

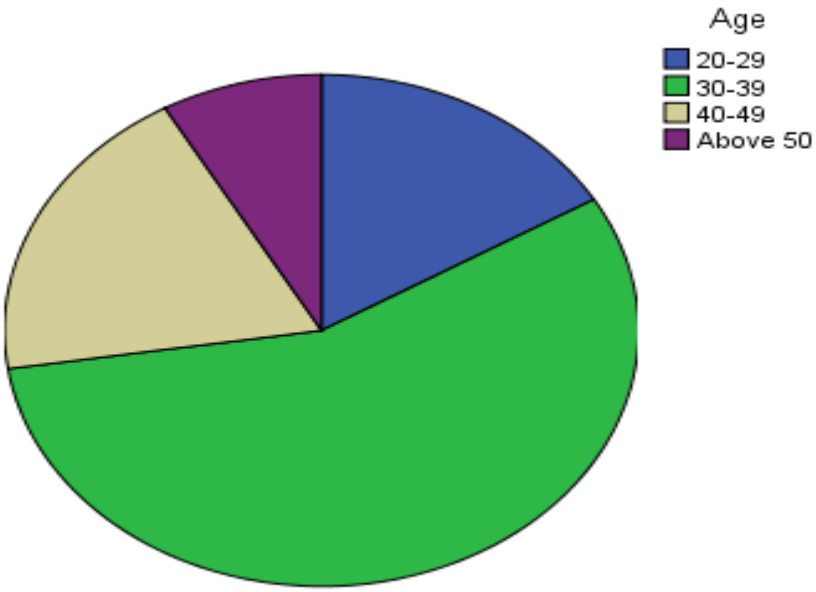
The age distribution of the respondents was also analyzed. From table 4.4 below, 12 respondents representing 16.4% were between the age of 20-29, 41 respondents were between the ages of 30-39 representing 56.2%, 14 respondents were aged between 40-49 representing 19.2% while the remaining 8 respondents were above 50 years representing 8.2%. From the table, it can be observed that majority of the respondents fall within the 30-39 age bracket while only 8.2% are above 50. This shows that the respondents are in the prime of their working life.

Table 4. 4 Frequency distribution by age

Age range	Frequency	Percentage (%)
20-29	12	16.4
30-39	41	56.2
40-49	14	19.2
Above 50	6	8.2
Total	**73**	**100**

Source: Field data, 2018

Figure 4. 2 Frequency distribution by Age



Source: Field data, 2018

4.3.3 Academic Qualification of Respondents

The study also sought to identify the academic qualification of respondents. From table 4.5 below, the number of respondents who had Higher National Diploma (HND) qualification are 5 representing 6.8%, 35 respondents representing 47.9% of the respondents had Bachelor's degree qualification while 32 respondents representing 43.8% had Master's degree qualification. Only one respondent had other qualification other than those listed in the questionnaire. The minimum qualification to secure employment from Teachers Fund is a tertiary education

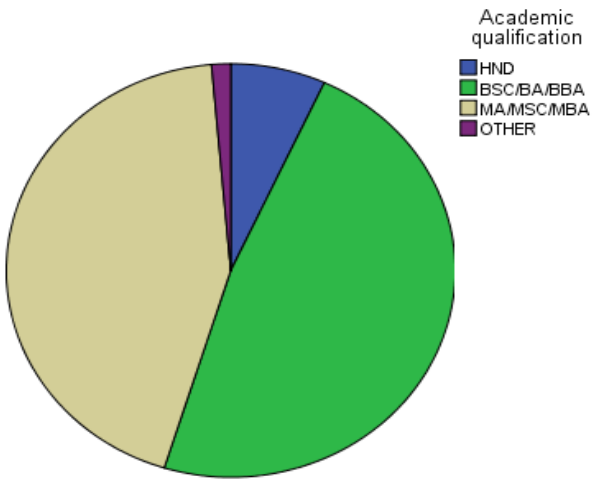
certificate hence all the respondents had tertiary education qualification. The information in the table are also presented in Figure 4.3 in a pie chart.

Table 4. 5 Frequency distribution by Academic qualification

Academic qualification	Frequency	Percentage (%)
HND	5	6.8
BSC/BA/BBA	35	47.9
MA/MSC/MBA	32	43.8
Other	1	1.4
Total	**73**	**100**

Source: Field data, 2018

Figure 4. 3 Frequency distribution by Academic qualification



Source: Field data, 2018

4.3.4 Department of Respondents

The researcher also sought to establish the department the respondents worked in the organization. The table 4.6 below presents the frequency distribution of the departments the respondents worked in the organization. From the table, 11 of the respondents representing 15.1% worked in the operations department, 9 representing 12.3% worked at the IT department, 12 respondents representing 16.4% worked at the credit department, 12 respondents representing 16.4% worked in the accounts department, 7 respondents representing 9.6% worked in the Human resource (HR)

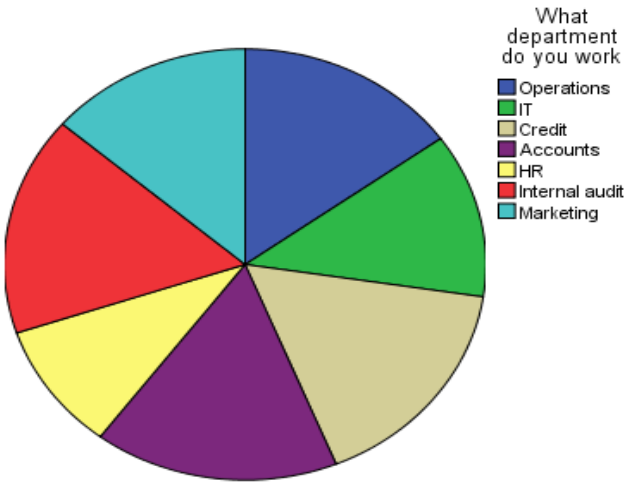
department, 10 respondents representing 13.8% worked in the Internal audit department and the remaining 12 respondents works with marketing department of the organization. In all the distribution of the respondents by department showed that the respondents were fairly distributed with three departments tied at 12 respondents while the department with the lowest number of respondents was the HR department with only 7 respondents. The information in the table is also represented in a pie chart in figure 4.4.

Table 4. 6 Frequency distribution by department

Department	Frequency	Percentage (%)
Operations	11	15.1
IT	9	12.3
Credit	12	16.4
Accounts	12	16.4
HR	7	9.6
Internal Audit	10	13.8
Marketing	12	16.4
Total	**73**	**100**

Source: Field data, 2018

Figure 4. 4 Frequency distribution by Department

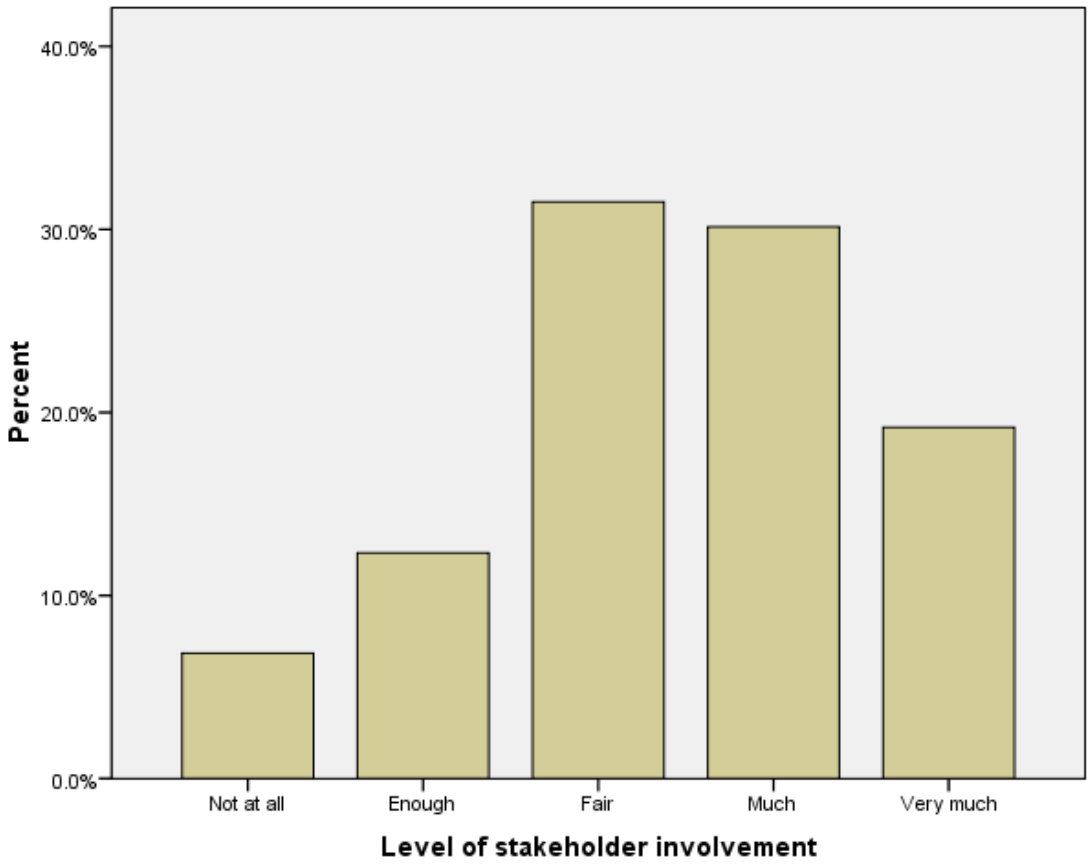


Source: Field data, 2018

4.4 LEVEL OF STAKEHOLDER INVOLVEMENT

The respondents of the questionnaires were asked to rate their involvement on a scale of 1-5 where 1-Not at all involved, 2-Enough involved, 3-Fairly involved, 4-Much involved and 5-Very involved. The responses were analyzed and presented in a bar graph in figure 4.5 below.

Figure 4. 5 Level of stakeholder involvement



From the graph above, it can be observed that majority of the respondents were fairly involved in the ERP project implementation. 5 respondents representing 6.9% responded that they were not at all involved in the Implementation of the ERP project, 9 representing 12.3% of the respondents said they were involved enough, 23 respondents representing 31.5% said they were fairly involved in the implementation, 22 respondents representing 30.1% said they were much involved in the ERP implementation and 19.2 % of the respondents numbering 14 said they were

very much involved in the implementation of the project. Majority of the respondents agreed that they were fairly involved in the implementation of the ERP project, indicating that stakeholders were highly involved in the ERP project implementation. The stakeholders were involved at different phases of the project. Stakeholders took roles in a form of project manager, project team, testers, users, on the project implementation. Trainings and workshops were also conducted for stakeholders as part of the involvement processes. The number of respondents who said they were very much involved were likely to be employees of the IT department who were part of the project team. The result is consistent with that of Mungai and Mwirigai (2016) who reported in their study of ERP implementation in Kenya that, there was high degree of stakeholder involvement in the project.

4.5 RELATIVE IMPORTANCE INDEX

The Relative Importance Index (RII) was adopted by the researcher to rank the challenges and critical success factors of ERP project implementation. Fummey (2012) adopted this method to rank the critical success factors for stakeholder management in construction projects. Nielson et al (2013) and Kometa et al (1994) also adopted the RII to quantify the delay factors for construction projects. The higher the Relative Importance Index (RII) the higher the rank of the factor. The questions in the questionnaire required the respondents to thick the importance of the challenges to ERP implementation and the Critical Success Factors of successful ERP implementation on a likert scale of 1-7 with 1-not at all important, 2-low importance, 3-slightly important, 4-neutral, 5-moderately important, 6-very important and 7-extremely important. The formula for computing the Relative Importance Index (RII) is:

$$\mathbf{RII} = \frac{\sum \mathbf{W}}{(\mathbf{A} * \mathbf{N})}$$

Where

RII= Relative Importance Index

W= Scale of the factor (1-7)

A=The highest weight of the factor

N= Number of respondents

4.6 CHALLENGES OF ERP IMPLEMENTATION

The Relative Importance Index (RII) was used to rank twelve (12) challenges that the respondents were asked to choose the level of importance of the various factors as challenges of ERP implementation. In all the mean scores of all the factors were above 5 indicating that the respondents considered all the 12 challenges to be important to ERP implementation. However, IT infrastructure ranked (1^{st}) as the most important challenge with RII of 0.8865 and a mean score of 6.055, Improper planning followed in (2^{nd}) position with a RII of 0.8669 and a mean score of 6.0685, Organizational culture followed in (3^{rd}) position with RII of 0.8784 and a mean score of 6.1233, Lack of Technological knowledge followed in (4^{th}) position with RII of 0.8532 and a mean score of 5.9726, Complexity of system followed in the (5^{th}) position with RII of 0.8493 and a mean score of 5.9452, Poor implementation ranked (6^{th}) with RII of 0.8474 and a mean score of 5.9315, Inexperienced project managers ranked (7^{th}) with RII of 0.8395 and a mean score of 5.8767, High cost of system ranked (8^{th}) with RII of 0.8121 and a mean score of 5.1370, Lack of user training ranked (9^{th}) with RII of 0.7945 and a mean score of 5.5616, Unskilled consultants ranked (10^{th}) with a RII of 0.7926 and a mean score of 5.5480, Poor change management ranked (11^{th}) with RII of 0.7867 and a mean score of 5.5068 and the

least ranked challenge was Employee resistance ranked (12^{th}) with RII of 0.7339 and a mean score of 5.1370. The results of the analysis are presented in table 4.6 below. According to the results, the five top ranked challenges that affect ERP implementation are Poor IT infrastructure, improper planning, organizational culture, Lack of technological knowledge and complexity of system.

The results are consistent with that of Mungai and Mwirigai (2016) who broadly categorized the challenges into Stakeholder knowledge, Organizational culture, lack of resources and employee knowledge, and found organizational culture, stakeholder involvement and lack of resources to challenge the implementation of ERP projects. The result is also consistent with that of Tambovcevs (2010) who found organizational factors and high cost of implementation as the main challenges of ERP implementation.

Table 4. 7 Mean score ranking of challenges of Oracle ERP implementation

Challenges of ERP implementation	**N**	**∑W**	$\frac{\sum W}{N}$	$RII = \frac{\sum W}{(A * N)}$	**Rank**
Poor IT infrastructure	73	453	6.2055	0.8865	1^{ST}
Improper planning	73	443	6.0685	0.8669	2^{ND}
Lack of technological knowledge	73	436	5.9726	0.8532	4^{TH}
Inexperienced project managers	73	429	5.8767	0.8395	7^{TH}
Complexity of system	73	434	5.9452	0.8493	5^{TH}
Organizational culture	73	447	6.1233	0.8748	3^{RD}
Unskilled consultants	73	405	5.5480	0.7926	10^{TH}
Lack of user training	73	406	5.5616	0.7945	9^{TH}
Poor change management	73	402	5.5068	0.7867	11^{TH}
Employee resistance	73	375	5.1370	0.7339	12^{TH}
High cost of system	73	415	5.6849	0.8121	8^{TH}
Poor implementation	73	433	5.9315	0.8474	6^{TH}

Source: Field data, 2018

4.7 CRITICAL SUCCESS FACTORS OF ORACLE ERP IMPLEMENTATION

Fourteen (14) Critical Success Factors (CSFs) were identified from literature and respondents were asked to thick the level of importance on a Likert scale of 1 to 7. The responses were analyzed using the Relative Importance Index (RII) and mean score ranking of the factors. The results revealed that Top management support ranked (1^{st}) with a mean score of 6.3425 and an RII of 0.9061, Project management ranked (2^{nd}) with a mean score of 6.2603 and an RII of 0.8943, User Involvement ranked (3^{rd}) with a mean score of 6.2329 and RII of 0.8904, Data accuracy ranked (4^{th}) with mean score 6.2329 and an RII of 0.8904, Hardware & Software suitability ranked (5^{th}) with mean score of 6.1644 and RII of 0.8806, User training & education ranked (6^{th}) with mean score 6.1370 and RII of 0.8767, ERP Implementation ranked (7^{th}) with a mean score of 6.0548 and an RII of 0.8650, Stakeholder participation ranked (8^{th}) with a mean score of 6.0411 and an RII of 0.8630, System Integration ranked (9^{th}) with a mean score 5.9863 and an RII of 0.8552, Organizational culture ranked (10^{th}) with a mean score of 5.8493 and an RII of 0.8356, Vendor support ranked (11^{th}) 5.8356 and RII of 0.8337, ERP system selection ranked (12^{th}) with a mean score of 5.8356 and an RII of 0.8337, Project team composition ranked (13^{th}) with a mean score of 5.8219 and an RII of 0.8317 and the least ranked Critical Success Factor was Change management which ranked (14^{th}) with a mean score of 5.5205 and an RII of 0.7886. The mean score of the factors ranged between 5.5205 to 6.3425 which indicates that the respondents considered all the factors to be important in ERP implementation. The top five ranked Critical Success Factors included Top management support, User involvement, Project management, Data accuracy and Hardware and Software suitability.

Top management support implies that the managers in higher positions in the organizational hierarchy support and are involved in the implementation of the projects, the manager's show full understanding of the system to be implemented and offer their support. The responses by the respondents indicate that the support of the top managers are very critical for successful implementation of ERP projects. Users of ERP system are staff and external partners of the implementing organization, the responses rank their involvement in the implementation such as participation and requirement gathering of the project. Project management team comprises well qualified people with the knowledge and expertise in the system to be implemented. According to the responses, a strong and competent team will ensure a successful implementation of ERP projects. One of the primary goals of implementing ERP system is to harmonize the operations of various departments on the organization into one computer system. The harmonization ensures the sharing of data between departments and partners of the organization. The respondents agreed that, for ERP implementation to be possible, the data generated by the system should be very accurate. ERP systems are computer systems hence they are composed of a hardware and software composition. For the implementation to be successful, the hardware and the software available at the implementing organization should be suitable to support the implementation of the system.

The result is consistent with that of Tambovcevs (2010) who researched into the implementation of ERP in construction industry and identified Top management support, project management, change management, monitoring and evaluation as well as effective communication as the key critical success factors of ERP implementation. The results of the analysis are presented in the mean score ranking table 4.7 below.

Table 4. 8 Mean score ranking of Critical Success Factors

Critical success factors	N	∑W	$\frac{\sum W}{N}$	$RII = \frac{\sum W}{(A * N)}$	Rank
Top management support	73	463	6.3425	0.9061	1ST
Project management	73	455	6.2329	0.8904	3RD
User Involvement	73	457	6.2603	0.8943	2ND
User training & education	73	448	6.1370	0.8767	6TH
Organizational culture	73	427	5.8493	0.8356	10TH
Change management	73	403	5.5205	0.7886	14TH
Data accuracy	73	455	6.2329	0.8904	4TH
Vendor support	73	426	5.8356	0.8337	11TH
Hardware & Software suitability	73	450	6.1644	0.8806	5TH
ERP Implementation	73	442	6.0548	0.8650	7TH
ERP system selection	73	426	5.8356	0.8337	12TH
System Integration	73	437	5.9863	0.8552	9TH
Stakeholder participation	73	441	6.0411	0.8630	8TH
Project team composition	73	425	5.8219	0.8317	13TH

Source: Field data, 2018

4.8 EFFECT OF STAKEHOLDER INVOLVEMENT ON ERP PROJECT SUCCESS

The various dimensions and variables measuring project success were transformed into one and also the variables measuring stakeholder involvement were also transformed into one variable named Stakeholder involvement. This was done to ensure easy analysis of the variable. A Correlation analysis was first carried out to ascertain the level of relationship between project success (Dependent variable) and Stakeholder involvement (independent variable). The result of the correlation is shown in table 4.8 below.

Table 4. 9 Correlation of project success and stakeholder involvement

		Project Success	Stakeholder involvement
Project Success	Pearson Correlation	1	.525
	Sig. (2-tailed)		.000
	N	73	73
Stakeholder involvement	Pearson Correlation	.525	1
	Sig. (2-tailed)	.000	
	N	73	73

Source: SPSS output

From the correlation table above, there exist a positive relationship between stakeholder involvement and project success. The correlation co efficient of 0.525 is a moderate linear relationship between the two variables and the result is significant at p=0.000 which shows that stakeholder involvement influences ERP implementation success. With the relationship between the variables established, the researcher went on to perform a regression with project success as dependent variable and stakeholder involvement as independent variable.

The R^2 of the model which measures the degree of variation in the dependent variable that is explained by the independent variable is .287 for this model. The low R^2 is because several factors contribute to explaining project success and not only stakeholder involvement. Hence stakeholder involvement explains just 28.7% variation in project success. The overall regression model is statistically significant with an F (28.545) p=0.00<0.01. A p value of less than 0.01 indicates that the model is statistically significant at 1%. The results are presented in the ANOVA table 4.9 below.

Table 4. 10 ANOVA results

Model	Sum of squares	df	Mean squares	F	Sig.
Regression	15.335	1	15.335	28.545	.000
Residual	38.142	71	.537		
Total	53.477	72			

R^2= .287 Adjusted R^2 = .277

Table 4. 11 Coefficient results

Model	Unstandardized coefficients		Standardized coefficients		Sig.
	B	Std, Error	Beta	t	
Constant	1.922	.324		5.927	.000
Stakeholder involvement	.526	.099	.532	5.343	.000

Dependent variable: Project success

The coefficient table presents the relationship between the dependent and independent variable in the model. The model can be written mathematically as:

$$P\text{roject success} = 1.922 + 0.526 * \text{Stakeholder involvement}$$

The constant is the slope or value of project success if stakeholder involvement is zero. The coefficient of stakeholder involvement is positive which shows that a positive relationship exists between project success and stakeholder involvement. This indicates that a unit change in stakeholder involvement will cause project success to change by 0.526. The results are statistically significant with a statistic of 5.343 at a p =.000 which is significant at 1%.

Several studies conducted on stakeholder participation or involvement in ERP project have spelt out enormous role stakeholders' play in the successful implementation of the projects. Stakeholders should be involved in every phase of the implementation process. The results of the study conclude that stakeholder involvement is key to the success of ERP projects in Ghana. The result is consistent

with studies done on both the African continent and around the world. A study conducted by Kibera (2013) to assess the effect of stakeholder participation on the implementation of ICT projects in Kenya came to the conclusion that stakeholder participation is key to project success. Similar studies conducted by Mantende et al. (2015) in Kenya limited the stakeholders to only the users of the ERP and the impact their participation have on the project success, the researchers used both qualitative and quantitative data and employed a case study methodology for the study. The researchers found user participation to have a positive relationship or effect on ERP project success. The result also conforms to that of Mungai and Mwirigai (2016) who also found a positive effect between stakeholder involvement and project success.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.0 INTRODUCTION

This chapter summarizes and concludes the study's findings based on the results discussed in the previous chapters. It includes recommending ways of remedying the problems identified in the problem statement. Also, recommendations are made for future researchers to consider topics that will help the progress of the topic under study.

5.1 SUMMARY OF FINDINGS

The study shows that 64.4% of respondents were males and 35.6% were females. The males were therefore more than females. This perhaps own it the perception that males are more enthusiastic about information technology (IT) projects than females. The analysis of the age distribution of the respondents proved that most respondents were within the youthful age bracket. This demonstrates that, majority of the respondents are at the peak of their working life.

On qualifications, all of the respondents are well educated to understand the questionnaire in order to provide the needed information for the study. The analysis of the level of educational attainment of the respondents clearly indicates that majority of the respondents (47.9%) are first degree holders. The distribution of the respondents by department showed that the respondents were fairly done, with three departments tied at 12 respondents as indicated by the results.

The study was conducted to answer four main research questions concerning an assessment of the effect of stakeholder involvement on Enterprise Resource Planning

(ERP) project success in Ghana. The findings under each of the objectives are presented below.

5.1.1 Establishing the level of stakeholders' involvement in the implementation of ERP projects in Ghana

From the findings, it can be said that the stakeholders of the Teachers Fund were fairly involved in the Oracle software project implementation. The stakeholders were involved at different phases of the project and took roles such as inclusion in the project team, testers, users, trainings and workshops on the project implementation.

5.1.2 Examining the underlying challenges militating against the implementation of ERP projects in Ghana

The findings revealed that, respondents ranked the challenges of Oracle software implementation above a mean score of 5. This indicates that, respondents considered all the 12 challenges of ERP implementation they were asked to rank as important. However, Poor IT infrastructure, improper planning, Organizational culture, Lack of technological knowledge and complexity of system were ranked by respondents as the five top challenges that affect the Oracle software implementation respectively.

5.1.3 Exploring the critical success factors of underpinning the implementation of ERP projects in Ghana.

The level of importance of the critical success factors (CSFs) relative to the Oracle software implementation of the Teachers Fund was ranked by the respondents in the questionnaires administered. The results indicated that, the top five Critical Success Factors included Top management support, User involvement, Project management, Data accuracy and Hardware and Software suitability in that order.

Top management support implies that the managers in higher positions in the organizational hierarchy support and are involved in the implementation of the projects, the managers' show full understanding of the system to be implemented and offer their support. The responses by the respondents indicate that the support of the top managers are very critical for successful implementation of ERP projects. Users of ERP system are staff and external partners of the implementing organization, the responses rank their involvement in the implementation such as participation and requirement gathering of the project. Project management team comprises well qualified people with the knowledge and expertise in the system to be implemented. According to the responses, a strong and competent team will ensure a successful implementation of ERP projects. One of the primary goals of implementing ERP system is to harmonize the operations of various departments on the organization into one computer system. The harmonization ensures the sharing of data between departments and partners of the organization. The respondents agreed that, for ERP implementation to be possible, the data generated by the system should be very accurate. ERP systems are computer systems hence they are composed of a hardware and software composition. For the implementation to be successful, the hardware and the software available at the implementing organization should be suitable to support the implementation of the system.

5.1.4 Assessing stakeholder involvement in ERP project implementation success in Ghana

Correlation and regression analysis carried out to ascertain what relationship exist between project success (Dependent variable) and Stakeholder involvement (independent variable) revealed that, there is a positive relationship between stakeholder involvement and project success. The finding confirms results of several

studies conducted on stakeholder involvement on ERP project success. This connote that, stakeholder involvement is key to project success, the more the stakeholders are involved, the higher the success rate of the project.

5.2 CONCLUSION

The study was set up to assess stakeholder involvement on enterprise resource planning ERP project success in Ghana. The Oracle software implementation of the Teachers Fund was used as a case study to achieve the objectives of the study. The main objectives were to establish the level of stakeholders' involvement in the implementation of ERP projects in Ghana., examine the underlying challenges militating against the implementation of ERP projects in Ghana, explore the critical success factors CSFs underpinning the implementation of ERP projects in Ghana and to assess stakeholder involvement on ERP project implementation success in Ghana.

The research method employed was a quantitative technique. Questionnaires were used in collecting data from the field. Descriptive and inferential statistics such as regression and correlation analysis were used to analyze the data. Results from questionnaires data analysis revealed the following findings:

The study identified, fourteen (14) critical success factors of enterprise resource planning ERP project implementation. The findings established that, five (5) factors were highly regarded as critical to the success of Oracle software implementation project.

The study also revealed that, there is a positive relationship between stakeholder involvement and project success.

The study concludes that, adequate stakeholder involvement in the implementation of enterprise resource planning ERP project is key to project success.

5.3 RECOMMENDATIONS

The study has demonstrated some level of lapses which need to be addressed to ensure that project stakeholders are effectively involved in the implementation of the Oracle software project in order to deliver successful project. Stakeholders of the project which was limited to the internal stakeholders included the top management and all staff of the organization. The stakeholders should not be seen as just the beneficiaries of deliverables of the project, they should rather be seen as part of the project. Therefore, they should be identified and be involved in every stage of the project life cycle to ensure project success. They should be given adequate training on the use of the system and their views also factored in the design of the system to produce the desired results of the system

The top management of the organization which includes the departmental heads, the general manager and the board should also support the implementation of the project as it was identified that their support is paramount to ensuring a successful implementation of the project.

5.1.3 Area for future research

The study was limited to only Teachers Fund, further research involving other mutual fund will have required larger sample size that will ensure accurate generalization of the findings. Future research should employ the same procedure to conduct a study on other financial institutions which had implemented an enterprise resource planning project to assess stakeholder involvement on ERP project success.

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APPENDICES

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

INSTITUTE OF DISTANCE LEARNING

DEPARTMENT OF BUILDING TECHNOLOGY

QUESTIONNAIRE

AN ASSESSMENT OF THE EFFECT OF STAKEHOLDER INVOLVEMENT ON ENTERPRISE RESOURCE PLANNING (ERP) PROJECT SUCCESS IN GHANA

Dear Respondent,

I am an Msc Project Management student of Kwame Nkrumah University of Science and Technology (KNUST), Department of Building Technology. As part of the requirement in the fulfillment of my postgraduate degree award, I am conducting a research on **an assessment of the effect of stakeholders' involvement on ERP project implementation success in Ghana.** Dr De-Graft Owusu-Manu is my supervisor for this research**.** I adopted a case study approach and used the Oracle software implementation of Teachers Fund as my case study. Considering the role, you played in the implementation of the ERP project, I will be glad if you can take some time off your busy schedule and offer me information to achieve the objectives of my research by filling in this questionnaire.

I promise to treat the information you provide with the **maximum level of confidentiality** it requires and also assure you that the information will be used only for this purpose.

Thank you

Patrick Agyapong, MSc. Student, KNUST

Dr. De-Graft Owusu-Manu, Project Supervisor, Department of Building Technology (KNUST)

Outline of questionnaire

Section A of the questionnaire requires you to give a brief background information of yourself **Section B** requires you to indicate your level of involvement in the Oracle ERP implementation **Section C** requires you to rank the level of importance of some challenges impeding the successful implementation of the ERP project on a Likert scale of 1-7 **Section D** requires you the rank some critical success factors of ERP implementation on a Likert scale of 1-7. **Section E** requires you to rank the different dimensions of measuring ERP implementation success and also rank your level of agreement to statement about the success of Oracle ERP.

Please fill in the questionnaire by filling in the blank spaces where appropriate and ticking the right boxes where required.

SECTION A

RESPONDENTS INFORMATION

Tick where appropriate

What is your gender? Male [ ] Female [ ]

1. What is your age?

   20-29 [ ] 30-39 [ ] 40-49 [ ] Above 50

2. What is your Highest academic qualification?

   SSSCE [ ] HND [ ] BSc. / BA/ BBA [ ] MSc. /MBA/ MA [ ] PHD/ DBA [ ] OTHER [ ] Specify……

3. Which department do you work?

   Operations [ ] IT [ ] Credit [ ] Accounts [ ] HR [ ] Audit [ ] Marketing [ ] Other Specify……

SECTION B

STAKEHOLDER INVOLVEMENT IN ERP PROJECT IMPLEMENTATION

Stakeholders involvement in projects have been identified to play a crucial role in ERP project implementation. Please rank how much you were involved in the ERP implementation on a scale of 1-5.

NB: 1-Not at all, 2-Enough, 3-Fair, 4-Much, 5-Very Much

4. Were you involved in the system planning and implementation?
   Not at all [ ] Enough [ ] Fair [ ] Much[ ] Very Much[ ]
5. Were you informed of the Oracle system before Implementation?

   Not at all [ ] Enough [ ] Fair [ ] Much[ ] Very Much[ ]

6. Were your views factored into the design of the Oracle system?

   Not at all [ ] Enough [ ] Fair [ ] Much[ ] Very Much[ ]

7. Were your requirements gathered in the system implementation?

   Not at all [ ] Enough [ ] Fair [ ] Much[ ] Very Much[ ]

8. Were you empowered through training and workshops on the ERP system?

   Not at all [ ] Enough [ ] Fair [ ] Much[ ] Very Much[ ]

SECTION C

CHALLENGES OF ERP IMPLEMENTATION

Challenges of Implementing ERP projects has been identified in literature to include the following challenges. With your experience and involvement in the project implementation. Rank the level of importance of the following challenges. The rank ranges from 1-7.

NB: 1- Not at all important, 2-Low importance, 3-Slightly important, 4-Neutral, 5-Moderately important, 6-Very important, 7-Extremely important

9. **what is the level of importance of the following challenges on the Oracle ERP project implementation?**

		Level of Importance						
	Challenges	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	IT infrastructure							
2	Improper planning							
3	Lack of technical knowledge							
4	Inexperienced project managers							
5	Complexity of system							
6	Organizational culture							
7	Unskilled consultants							
8	Lack of user training							
9	Poor change management							
10	Employee resistance							
11	High cost							
12	Poor Implementation							
Please enter and Rate other challenges that were excluded from the list (If any)								
1								
2								
3								
4								

SECTION D

CRITICAL SUCCESS FACTORS OF ERP IMPLEMENTATION

From the literature on Critical Success Factors (CSFs), the following factors were identified for successful ERP implementation. Please rank the level of importance of the following identified factors using the scale from 1-7

NB: 1- Not at all important, 2-Low importance, 3-Slightly important, 4-Neutral, 5-Moderately important, 6-Very important, 7-Extremely important

1. **What is the level of importance of these Critical Success Factors of Oracle ERP implementation?**

		Level of Importance						
No.	**Critical success factors**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	Top Management support							
2	Project Management							
3	User Involvement							
4	User training and Education							
5	Organizational culture							
6	Change Management							
7	Data Accuracy							
8	Vendor Support							
9	Hardware and software suitability							
10	ERP project Implementation							
11	ERP system selection							
12	System Integration							
13	Stakeholders Participation							
14	Project teamwork and composition							
Please enter and rank other success factors that are not found on the list (If any)								
1								
2								
3								
4								

SECTION E

MEASURING ORACLE SYSTEM IMPLEMENTATION SUCESS

From the review of relevant literature on the success of ERP project implementation, a model was adopted to measure the success of Oracle ERP project implementation of teacher's fund. Please rank the following statements on a Likert scale of 1-5.

NB: 1- Strongly disagree, 2- Disagree, 3- Neither agree nor disagree, 4- Agree and 5- Strongly agree.

1. **What is your assessment of the success of the Oracle ERP software implementation?**

No.		Level of Agreement				
	SYSTEM QUALITY	**1**	**2**	**3**	**4**	**5**
1	Oracle system is easy to use					
2	Oracle system is flexible					
3	Oracle system is efficient					
4	Oracle system is reliable					
	INDIVIDUAL IMPACT					
5	Oracle software saves time					
6	Oracle ERP improves creativity					
7	Oracle ERP improves quality decision making					
	ORGANIZATIONAL IMPACT					
8	Oracle improves service delivery					
9	Oracles gives teachers fund Competitive advantage					
10	Oracle reduces organizational cost					
11	Oracle improve productivity of various departments					
	INFORMATION QUALITY					
12	Information from Oracle is accurate					
13	Information from Oracle is useable					
14	Information from Oracle is timely					
15	Information generated from Oracle is important					

THANK YOU FOR YOUR TIME