ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Assessment of Enterprise Resources Planning (ERP) Implementation: The Case of Ethio telecom

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JUNE, 2017

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A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY COLLEGE SCHOOL OF GRADUATE STUDIES IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OFBUSINESS ADMINSTRATION

JUNE, 2017

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DEPARTMENT OF GENERAL, MBA

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Statement of declaration

I, the undersigned, declare that this thesis is my original work, has not been presented for degree in any other university, and that all source of materials used for the thesis have been duly acknowledged.

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ACKNOWLEDGMENTS

I would like to express my deepest gratitude to the advisor of my thesis, Assistant Prof .Tirunh Legesse for his priceless guidance and support. His time efforts spent in reviewing my work are very much appreciated.

Most of the results described in this thesis would not have been without support of Ethio telecom staff especially Finance, Human resource, Sourcing and facility both management and non-management collaboration by filling the questioner with the existing tight schedule in operational work. I owe a great deal of appreciation and gratitude to them.

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Abbreviations and Acronyms

ERP ……Enterprise Resource Planning
E-business ……..Electronic Business
SMEs……..Small to Medium Enterprises
APS…….Advanced Planning and Scheduling
CRM……Customer Relations Management
SCM……Supply Chain Management
IC…….Inventory Control
MRP…….Material Requirement Planning
MRP II…….Manufacturing Resource Planning
B2B……..Business to Business
B2C……..Business to Customer
BPR …….Business Process Reengineering
ITU……..… International Telecommunications Unione
TOM……Enhanced Telecom Operating Map
PCMM ……..People Capability Maturity Model
I-Procurement……Internet Procurement

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Abstract

In recent years, most developing countries companies implement integrated software to create smooth inter-organization integration, get competitive context of business environment, hold customer satisfaction, produce real time report, provide user satisfaction as operating system, and getting output from the system. Enterprise resource planning is one of complex information systems that integrate the data of all business areas within the organization. Many researcher identifies varies factors which contribute for the ERP implementation. The purpose of this study to assess the second phase implementation of Enterprise resources planning in ethio-telecom and to recommend possible solutions for the gap created during the implementation. As a result, the researcher has tested the implementation effectiveness by selecting major effectiveness variables and other related concepts. This research has a descriptive nature which elaborates the existing phenomenon as it exists. The data was collected using questionnaires from a sample population. The collected data was analyzed using mainly by computer such as SPSS (Statistical Package for the Social Sciences) version 20.According to this from the selected division of ERP implementation was carried on 15 employees from the management and 293 from non-management categories were taken as a sample. Based on this result shows that the deployed ERP system was not properly implemented as the basis of the selected variable. As a result there is a lack of top management commitment; lack of appropriate training for all system users and as well as lack of allowing user to participate on the implementation process. From this fact the researcher recommend that the top management is expected to provide in the area of committing to the ERP project. In addition the company has to consider the way to give adequate training and development for both end user as well as super user to bring the required level of skill on the system. Finally the company should emphasis allowing user to participate on the implementation process have an advantage in the real situation.

CHAPTER ONE

NTRODUCTION

1.1 Background of the Study

Increasing the exchange of information and commnication between upstream and downstrem with in the departement by using computer hardware and software systems has influenced all facets of computing applications across organizations. In a highly competitive global business environment, firms seek to improve or maintain their competitiveness by using information systems to improve customer service, shorten cycle times, and reduce cost.

As mentioned above; the complex nature of some functional units require more and more inter-functional data flow for decision making, timely and efficient procurement of product parts, management of inventory, accounting, human resources and distribution of goods and services. In this context, management of organizations needs efficient information systems to improve competitiveness by cost reduction and better logistics management.(Woo, Hong Seng,2007: 431).

As one part of information system tool, Enterprise Resource Planning (ERP) as a business management system comprises integrated sets of comprehensive software, which can be used, when successfully implemented, to manage and integrate all the business functions within an organization. (Klaus, Rosemann, and Gable ,2000: 141).

It is generally a misleading perception that implementing an ERP system will organizations' functionalities overnight. The high expectation of achieving all-round cost savings and service improvements is very much dependent on how good the chosen ERP system fits to the organizational functionalities and how well the tailoring and configuration process of the system matched with the business culture, strategy and structure of the organization. Overall an system is expected to improve both backbone and front-end functions simultaneously (Liaquat Hossain et al., 2002:18).

The implementation of an ERP system in an organization is a very complex project. The implementation of such systems is difficult and involves a high costs, as well as considerable time and resources. Organizations contemplating such a project must be aware of the necessary commitments. The most important thing is that the implementation of ERP projects is a major event in the life of an organization. An ERP system is expected to change a lot of business, processes, and activities within the organization and often initiated with much expectation about the benefits and the transformation that the project would bring to the organization (Ibrahim, 2010).

As technical knowledge is required, strategic, organizational and people-related factors are significant in the success of an ERP project. Strong top management commitment is a most important issue in successful ERP implementation, as it involves of a lot of changes in the organization. Also effective communications, effective project management, training and implementation team are essential throughout an ERP project in order to bind the various together (Ibrahim, 2010).

As clearly explained above regarding the topic different authors by different country (specially developed countries) and sector context tried to assess the problem they observe and filled the gap (practical and academic). But, a country like Ethiopia the implementation the ERP system is a recent phenomenon. Thanks to globalization many multinational companies start to invest in the third world country for their own advantage and countries also start to get benefit from their involvement. When they came they don‘t only bring the business idea and finance only rather they bring their rich experience in the area including internal processes.

Currently, for any company to be successful, being meticulously strategic in automating the major work processes is highly imperative; one of the characteristics of being strategic is using the best automation tool on its inside operation. Actually, there is no single globally agreed best tool which can incorporate on all organizations – it‘s about how the tools are being implemented by their users!

In addition to the tools being used, the most important success-factor for any big company in implementing ERP system is mainly depend on how well the companies requirement has been defined; if the requirements are not properly defined and organized, it might be the root cause for the failures of the tool.

Ethio-telecom has an ambition of being a world class company and in order to be a world class company, it decided to use a more sophisticated automation tool so that its internal work process are shifted from routine tasks to strategic ones.

Mainly the benefit which is expected from ERP system is realized only when it is implemented considering all the pre and post implementation activities. Otherwise, the system could be a curse to and drag the whole enterprise into spiraling inefficiency. Planning for ERP systems and their implementations requires an integrated approach to meet the requirements of various functional areas. In general; independent of the size of the company, an Enterprise Resource Planning system can either boost or doom a company, if implemented successfully or nsuccessfully respectively.

So the motive of this research is to fill the above mentioned gap for both academicians and practitioners. Since telecom companies are highly dependent on technologies the company (ethio-telecom) is not new to implement new technology based system. But regarding ERP system, it is new phenomena. So the researcher‘s interest and motive is to assess the practices and challenges of implementing the system, to show the potential benefits and challenges and finally to recommend possible solution(s).

This research adopts a case study approach to investigate the practice of ERP implementation in Ethio Telecom focusing mainly on automating the major divisions activities Of the Organization.

1.2 Statement of the Problem

Ethio Telecom is investing huge amount of money in expanding telecom services. To realize its Growth and Transformation Plan regarding telecom services, depends on this sole telecom services provider in Ethiopia.The corporation envisions to be world class telecommunication service provider. As it goes in its mission statement, EThio-Telecom has a mission to connect every Ethiopian through information communication technology, provide telecommunication services and products that enhance the development of the nation and build reputable known its customers' consideration. However, it was very challenging to continue with the existing management style and technology as a result of the dynamic environment of the sector. Therefore, the government planned a reengineering project which was undertaken from 2007 to 2010 and that was mainly designed to introduce world class business processes including the implementation of "Enterprise Resource Planning" system and to bring in latest telecommunication technologies in to the organization. Since December, 2010, based on the newly introduced organizational objective and structure, an IT solution named Enterprise Resource Planning has been introduced in a manner that fits the current work arrangements and expectations.

ERP implementation inevitably causes organizational changes, it requires the engagement of senior management from across the organization who is able to resolve conflicts. Without the commitment of senior management, ERP implementation has a high risk of failure.

In other words, due to changes in business processes across an organization, there can be resistance to adopting the ERP system. ERP connects and integrates all business functions within the organization. Therefore, it is critical that management staff be committed, and particularly that they equip employees who are using business functions influenced by ERP with clear channels of communication. Lack of end-user training increases risks by creating confusion and inaccuracy, thereby decreasing user satisfaction and the credibility of the system.

Excellent project management is also needed for successful ERP implementation. Project teams should have clear guidelines to execute ERP implementation from their project objectives and work plan to their resource allocation plan. Without good project management, ERP implementation projects that are large in scale and must take place over longer time periods may end in failure. Furthermore, the composition of team members plays a crucial role in ERP implementation. ERP integrates diverse business functions across an organization into one single system, necessitating a complex and integrated software package. If a project team does not clearly understand the changes in its organizational structure, strategies, and processes from ERP implementation, it will not be in a position to benefit from ERP's competitive advantage. In order to best implement ERP, project team members should be selected with a balance between members with business experience within the organization and external experts with specialties in ERP.

As clerely discuss above Implementation of ERP system in Ethio Telecom is not about vanilla implementation rather it's about customizing and applying the tool in line with the nature of the structure of the company, policies and procedures, internal processes and other vital parameters. Therefore, it is very difficult to say the fiasco of implementation has existed because of the nature of the country, nature of the company, policies and procedures or other things unless a detailed investigation is done.

The researcher has many reason to conduct, although there are lots of researches conducted on the topic internationally.The researcher have not found that the paper that tried to study on the phase two implementation of ERP on the Company that chose to research.
Therefore; the researcher belive that the work have practical significance to strategy developers of the company on ERP implementation issues.In addtion to this the implemetation process sucessful when it infurasturacture,hard ware,soft ware and their reliability operating system and access to WAN,LAN or internet are the most important technical infrastructure for ERP implementation.

1.3 Research question

- ✓ Does the project team clearly understand the change in its organization structure, strategies and process for ERP implementation?
- ✓ Do you think the customization process considering the nature ofthe company work and regulation of the countries?
- ✓ Does the capacity building properly implemented to prepare system users?
- ✓ Does the management Commited and support for somooth implementation of system ?
- ✓ What are the change management factor that have an impact on the implementation of ERP system?
- ✓ To what extent do you agree about success of ERP implementation?

1.4 Objective of the Study

The general objective of this research is to assess the benefits and challenges of implementing Enterprise Recourses planning (ERP)in ethio-telecom and to recommend possible solutions for the gap.

Specific Objectives

Specifically, the study has the under listed specific objectives:

- ✓ To examine whether the the project team clearly understand the change in its organization structure, strategies and process for ERP implementation.
- ✓ To assess the implemented system properly customized considering the existing company work.
- ✓ To examine the extent of capacity building program implemented to prepare all system users to perform doing their day to day activity using the system.

- ✓ To assess the commitement of management for smooth emlementation of ERP System.
- ✓ To assess the impact of change management on the implementation of ERP system.
- ✓ To examine the extent of success indicators of ERP implementation.

1.5 Significance of the Study

The research to be undertaken will have practical importance about the systems functionality with respect to support activities and the company successfully implementation integration of such a system, highlighting the processes used, the obstacles faced and how they can solved, as well as the gains achieved.In today's cost competative world the emphasis is on getting things done through incresing the productivity of employee by empowring them giving timly information this can be done by using an integrated technology such as an enterprise resource system(ERP). In addtion to this the management can get accurate data for decision and keeping an eye on the daily activities of the organization.Finally it provide usful information and practical suggetions for policy maker of the company at diffrent level.

1.6 Scope of the Study

The study is limite to the assessment of Enterprise Resource Planning system deployment in Ethio Telecom, its effectiveness in terms of creating automated work environment, challenges and problems which impede the implementation effectiveness; and look in to the perception of management and non-management groups of employees from each Divisions. From the country-wide branches of ethio-telecom, the researcher has only focused on the company's Head Quarter and its six remaining Addis Ababa's (Zone) offices. The main reason of selecting these geographical locations is mainly due to the geographical constraint.

1.7 Organization of the paper

In general the study has five chapters. The first chapter includes background of the study, statement of the problem, objective of the study, research questions, significance of the study, scope of the study, limitation of the study and Organization of the study.The remaining parts of the paper will be divided in to four chapters. The second chapter contains assessment of different literatures both on the area which discusses various theories and concepts on Enterprise Resources Planning system and related empirical reviews in relation to the company's actual situation. And chapter three deals the research methodology and design has been detailed and the sample size was also determined. And chapter four deals with presentation of the findings of the study and interpretation of the available data. And finally the last chapter will have the summery, conclusion and recommendation.

CHAPTER TWO

LITERATURE REVIEW

The following section explain related literatures and imperial facts. It includes the Knowledge-intensive nature of ERPsystem, and the benefits to be obtained through ERP implementation, the historical background of the system and its related evolutional stags, the conceptual understanding by differentiating ERP with E-Business, common ERP platforms, it's characteristics from the technical, organizational and information perspective and ERP implementation success and failure factors will be dealt under literature review part. On the other hand the reason behind ethio telecom goes for ERP implementation has been assessed under the Imperial review part.

2.1. Theoretical Literature

2.1.1. The Meaning of ERP

ERP systems were named differently by different authors, some of them are enterprise systems, enterprise wide-systems, enterprise business-systems, integrated vendor software, and enterprise application systems, but however with no significantly different definitions (Al-Mashari et al., 2003). Rosemann (2000) defines ERP system as a "customizable, standard application software which includes integrated business solutions for the core processes (e.g. production planning and control, warehouse management) and the main functions (e.g., accounting, human resource management) of an enterprise. Slight differently, Gable (2000), however, defines it as a comprehensive package software solutions seek to integrate the complete range of a business processes and functions in order to present a holistic view of the business from a single information and IT architecture" (Al-Mashari et al., 2003).

According to Fiona (2002:1), Enterprise Resource Planning (ERP) refers to large commercial software packages that promise a seamless integration of information flow throughout an organization by combining various sources of information into single software application and a single database. Enterprise resource planning systems encompassing functional areas such as planning, manufacturing, sales, marketing, distribution, accounting, financial, human resource management, project management, inventory management, service maintenance,

transportation and e-business or I-procurement. The architecture of the software facilitates transparent integration of modules, providing flow of information between all functions within the enterprise in a consistently visible manner.

Apart from the ideas mentioned above the major characteristics of ERP systems are: packaged software system designed for the client environment, the integration between the modules and across entire organization, access to data in real time, data storing and retrieving processes in an enterprise-wide database, and management and analysis functionalities. Moreover, ERP systems are expected to have additional characteristics such as support for multiple currencies and languages which is critical for multinational companies, and support for specific industries.

Hence; companies who are implementing the ERP system are benefiting from the single integrated system by transforming or reengineering their mostly legacy information system. And it is also defined as a method for the effective planning and controlling of all the resources needed to take, make, ship and account for customer orders in a manufacturing, distribution or service company. ERP systems are configurable information systems packages that integrate information and information-based processes within and across functional areas in an organization (Henry S., 2002).

2.1.2. Benefits of ERP

What are some of the perceived benefits that lead corporations to commit of ERP in their organizations? As indicated by Olliver and Romm (2002), "in common with other types of investment activity the adoption of an ERP system is a purposive intervention by an organization for bringing about a new state of affairs that is judged to be superior to the current state". Botta-Genoulaz, Millet, and Garbot (2005), indicate that two distinct streams are observed from the literature. The first one focuses on the corporate capabilities driving ERP as a strategic concept, and the second, on the details associated with implementing an information system and their relative successes and costs. Problems of sociological and cultural factors influencing the implementation success as well as the implementation steps have been addressed earlier in literature. As indicated by Chen (2001), "planning for ERP adoption generally occurs organization realizes that current business processes and procedures

are incompetent for their current and or future strategic needs". As the result of various external and internal forces, ethio telecom operating environment is changing and their working systems are becoming "incompetent". They are not able to maximize their efficiency and therefore, profit. Any tools that would enable these organizations to reverse this trend must be considered. In order to promote the use of ERP by ethio telecom, a more comprehensive look of the potential benefits that could be achieved must be completed. Ross, (1999:11) articulated that that as a business and strategic perspective implementing ERP is seen as way to improve corporation's effectiveness and efficiency, reduce their operating, personnel, inventory and IT costs, and improve their productivity, business growth, production scheduling, delivery time, customer service, and overall quality. Additionally, data visibility and timely information is important to make better business decisions.

It is clear that ERP system investments have been categorized as strategic in nature. Literature review identifies the common goal to be an increase in company sales, reduction in production cost, reduction of lead times, and improvements in customer relationships.
In general ERP systems enhance inter-organization communication and collaboration between different functions and locations for the integrated decision making process. Standardization of the processes across the unit's works in favor of collaboration as it reduces the number of conflicts between the processes. The single database system encourages communication across locations and functional units through sharing the information. With ERP systems companies are using the same database, which can be accessed on-line, in real-time and simultaneously by many users. Since, virtually all users have access to the same information it improves companies planning and control practices.

And some of the benefits that could be realized in ethio telecom environment as a result of ERP implementation could be as follows:

- Stronger supply chain partnerships
- Enhanced organizational flexibility
- Improved decision-making
- A Reduction in project completion time and cost
- Improved responsibilities in relation to customers
- Opportunity for the enterprise to re-engineer and upgrade its business process

2.1.3. Characteristics of ERP

An ERP system can be defined as an adaptable and evaluative commercial package that supports, in real time and in an integrated manner, the management of most if not all of a firm's business processes. One can attempt to better define it by looking at its characteristics. In this regard, an attentive observer of both the research and professional literature will denote quite a number of attributes deemed to be possessed by ERP systems. For a better understanding, Sylvestre (2004:71) has categorized characteristics of ERP system under three dimensions in regards to their nature, namely technical, organizational and informational. The technical dimension regroups characteristics that refer to the capabilities or facilities for applications development offered by ERP systems in comparison to traditional systems.This includes two basic characteristics: flexibility (adaptability) and openness (evolutionary). The organizational dimension refers to the system's deployment in the firm. These are the characteristics that best reflect the impact of an ERP system on the organization, on its structure as well as its practices. This includes integration, completeness (generic function), homogenization, transversality (process-oriented view) and best practices. The informational dimension regroups characteristics that relate to the quality and usefulness of the information provided by the system, namely real-time (update and consultation) and simulation (of actual business processes).

2.1.4. Evolution of ERP

For the last couple of years the business environment is becoming increasingly complex in terms of operational and functional work units and these units are requiring more and more inter-functional dataflow for decision making, timely and efficient procurement of product-parts, management of inventory, accounting, human resources and distribution of goods and services. In this context management of organizations need efficient information systems to improve competitiveness, and it is obvious that the capability of providing the information at the right time brings tremendous rewards to organizations in a global competitive world of complex business As indicated by Fiona (2002:35), ERP Systems are now ubiquitous in large businesses and the current move by vendors is to re-package them for small to enterprises (SMEs). This migration as many consequences that have to be addressed understanding the history and evolution of ERP systems and their current architectures. The advantages and

disadvantages of the ERP systems will impact their penetration in this new market. The market position and general strategy of the major systems providers in preparation for this push are described. The growth and success of ERP adoption and development in the new millennium will depend on the legacy ERP system's capability of extending to Customer Relationship Management (CRM), Supply Chain Management (SCM) and other extended modules, and integration with the Internet-enabled applications.

Starting in the late 1980s and the beginning of the 1990s new software systems known in the industry as Enterprise Resource Planning (ERP) systems have surfaced in the mainly large complex business organizations. These complex, expensive, powerful, proprietary systems are off-the-shelf solutions requiring consultants to tailor and implement them based on the company's requirements. In many cases they force companies to reengineer their business processes to accommodate the logic of the software modules for streamlining data flow throughout the organization. These software solutions, unlike the old traditional inhouse designed company-specific systems, are integrated multi-module commercial packages suitable for tailoring and adding "add-ons" as and when required. (ibid, 2002:39).

As explained by Mohammad A. (2002:4), the evolution of ERP systems closely followed the spectacular developments in the field of computer hardware and software systems. During the 1960s most organizations designed, developed and implemented centralized computing systems mostly automating their inventory control systems using inventory control packages (IC). These were legacy systems based on programming languages such as COBOL, ALGOL and FORTRAN. Material Requirements Planning (MRP) systems were developed in the 1970s which involved mainly planning the product or parts requirements according to the master production schedule. Following this route new software systems called Manufacturing Resources Planning (MRP II) were introduced in the 1980s with an emphasis on optimizing manufacturing processes by synchronizing the materials with production requirements. MRP II included areas such as shop floor and distribution management, Project management, Finance, Human Resource and Engineering. ERP systems first appeared in the late 1980s and the beginning of 1990s with the power of enterprise-wide inter-functional coordination and integration. Based on the technological foundations of MRP and MRP II, ERP systems integrate business processes including manufacturing, distribution, accounting, financial,

human resource management, project management, inventory management, service maintenance, transportation providing accessibility, visibility and consistency across the enterprise.

During the 1990s ERP vendors added more modules and functions as "add-ons" to the core modules giving birth to the "extended ERPs". These ERP extensions include advanced planning and scheduling (APS), e-business solutions such as customer relationship management (CRM) and supply chain management (SCM). (ibid, 2002:6).

2.1.4.1. Material Requirements Planning (MRP)

Wallace F. (2001:6) explained that Material Requirements Planning (MRP), an outgrowth of early efforts in bill of material processing. MRP's inventors were looking for a better method of ordering material and components, and they found it in this technique. MRP simulates the universal manufacturing equation. It uses the master schedule (What are we going to make?), the bill of material (What does it take to make it?), and inventory records (What do we have? to determine future requirements (What do we have to get?).

MRP could detect when the due date of an order (when it's scheduled to arrive) was out of phase with its need date (when it's required). For the first time ever in manufacturing, there was a formal mechanism for keeping priorities valid in a constantly changing environment. This is important, because in a manufacturing enterprise, change is not simply a possibility or even a probability. It's a certainty, the only constant, the only sure thing. The function of keeping order due dates valid and synchronized with these changes is known as priorit planning. (ibid, 2001:6)

Techniques for helping plan capacity requirements were tied in with Material Requirements Planning. Further, tools were developed to support the planning of aggregate sales and production levels (Sales & Operations Planning); the development of the specific build schedule (master scheduling); forecasting, sales planning, and customer-order promising (demand management); and high-level resource analysis (Rough-Cut Capacity Planning). Systems to aid in executing the plan were tied in: various plant scheduling techniques for the inside factory and supplier scheduling for outside factory. (ibid, 2001:8).

2.1.4.2. Manufacturing Resource Planning (MRP II)

Manufacturing Resource Planning or MRP II (to distinguish it from Material Requirements Planning, MRP) is a direct outgrowth and extension of MRP. Wallace F. (2001), explained that in the 1980's MRP expanded from management of materials to plant and personnel planning and distribution planning, which in turn became MRPII (Manufacturing Resource Planning). As the materials requirements planning systems matured in the 1970s and 1980s, other portions of the productive system were naturally added to the computer software system. As it is indicated by Thomas F. (2001:9), the manufacturing resources planning involve three additional elements;

I. ales & Operations Planning—a powerful process to balance demand and supply at the volume level, thereby providing top management with far greater control over operational aspects of the business.
II. Financial interface—the ability to translate the operating plan (in pieces, pounds, gallons, or other units) into financial terms (dollars).
III. Simulation—the ability to ask "what-if" questions and to obtain actionable

Answers-in both units and dollars. Initially this was done only on an aggregate, "rough-cut" basis,but today's advanced planning systems (APS) enable effective simulation at very detailed levels.

Falls 1999 (Cited by Thomas F., 2001:10), Manufacturing Resource Planning (MRP II) -A method for the effective planning of all resources of a manufacturing company. Ideally, it addresses operational planning in units, financial planning in dollars, and has a simulation capability to answer "what-if" questions. It is made up of a variety of functions, each linked together: business planning, sales and operations planning, production planning, master scheduling, material requirements planning, capacity requirements planning, and the execution support systems for capacity and material. Output from these systems is integrated with financial reports such as the business plan, purchase commitment report, shipping budget, and inventory projections in dollars. Manufacturing resource planning is a direct outgrowth and extension MRP.

2.1.4.3. Enterprise Resource Planning (ERP)

Thomas F. (2001:26), also explains ERP as the same as with MRP II. However, thanks in large measure to enterprise software, ERP as a set of business processes is broader in scope, and more effective in dealing with multiple business units. Financial integration is even stronger. Supply chain tools, supporting business across company boundaries, are more robust. He also defined Enterprise Resource Planning (ERP) as business software which predicts and balances demand and supply. It is an enterprise-wide set of forecasting, planning, and scheduling tools, which:

- Links customers and suppliers into a complete supply chain,
- Employs proven processes for decision-making, and
- Coordinates sales, marketing, operations, logistics, purchasing, finance, product development, and human resources.

Its goals include high levels of customer service, productivity, cost reduction, and inventory turnover, and it provides the foundation for effective supply chain management and e-commerce. It does this by developing plans and schedules so that the right resources-manpower, materials, machinery, and money—are available in the right amount when needed. Thomas F. (2001:28), summarizes enterprise resource planning is a direct outgrowth and extension of Manufacturing Resource Planning and, as such, includes all of MRP II's capabilities. ERP is more powerful in that it: a) applies a single set of resource planning tools across the entire enterprise, b) provides real-time integration of sales, operating, and financial data, and c) connects resource planning approaches to the extended supply chain customers and suppliers. The primary purpose of implementing Enterprise Resource Planning is to run the business, in a rapidly changing and highly competitive environment, far better than before.

2.1.5. ERP and E-Business

According to Fiona (2002:2), ERP is a structured approach to optimizing a company's internal value chain. The software, if implemented fully across an entire enterprise, connects the various components of the enterprise through a logical transmission and sharing of data. When customers and suppliers request information that have been fully integrated throughout the value chain or when executives require integrated strategies and tactics in areas such as manufacturing, inventory, procurement and accounting, ERP systems collate the data for

analysis and transform the data into useful information that companies can use to support business decision-making. ERP systems, if implemented successfully, enhance and redesign business processes to eliminate non-value-added activities and allow companies to focus on core and truly value-added activities.

E-business stands for "electronic business," which involves communications and doing business electronically through the Internet. E-business is defined as "the use of electronically enabled communication networks that allow business enterprises to transmit and receive information". It can significantly improve business performance by strengthening the linkages in the value chain between businesses (B2B) and consumers (B2C). Besides increasing efficiency in selling, marketing and purchasing, e-business achieves effectiveness through improved customer service, reduced costs and streamlined business processes. Furthermore, e-business creates a strategic, customer-focused business environment for shared business improvements, mutual benefits and joint rewards. Companies use the Internet to implement customer-relation-management (CRM) and supply-chain-management (SCM) capabilities, which enable them to link their operations seamlessly with customers and suppliers. (ibid, 2002:3).

By definitions and by their respective functions, traditional ERP systems take care of internal value chain (i.e., within a company) whereas e-businesses establish the value chain across the market and the industries. More and more companies construct their systems' architectures by integrating ERP systems with e-business. They use Web-based interface (corporate portals) with outside entities plus add-on modules such as CRM, SCM, etc. in the integration.

2.1.6. ERP Implementation Success and Failure Factors

On one hand, ERP systems promise to improve organization's key performance indicators such as proficiency, efficiency, profitability, customer satisfaction and other measures of value. On the other hand, ERP systems are highly complex information systems and the implementation of these systems is a difficult and costly process placing tremendous demands on corporate time and resources. Business Process Reengineering (BPR) is often a major component in ERP installations and this requires companies to change the way business has been done, which, in accordance, affects the employees work lives and can create a resistance.

By the same token a transformational process held in ethio telecom is a major spring board for the establishment of Enterprise resources planning across the organization.

2.1.6.1. ERP Implementation Challenges

A typical implementation of ERP project is costly, time-consuming and complex undertaking. In fact, many companies have described their ERP implementation being a nightmare. Chen (2001); explained based on a recent study indicated that 40 % of all the ERP installations manage only partial implementation and 20 % totally fail and the remaining 20% has been fully successful. Depending on how someone is defining failure, percentage can be even higher.

Hence; depending on the degree of failure according to our existing practical situations here are the major ERP challenge areas:

- Complexity

The complexity of the system implementation arises from the fact that companies have to integrate ERP software with hardware, operating systems, and database management systems and so on. Further, it initiates the changes throughout the entire organization. As ERP software comes in a ready-made package companies are required to adjust their businesses to fit the system requirements. The reasons being that even with the today's art of technology ERP systems do not fit all the requirements of a company. Moreover, changes in one component might cause the collapse of the whole system, which is designed as an integration of separate modules.

- Costs and Benefits

The total implementation costs of ERP include software, hardware, consulting and internal personnel costs, which usually sum to 2-3 % percent of the company's revenues (Chen, 2001)The huge investment has to be weighed against the future economic and strategic benefits thathe system should eventually provide. However, the benefits might be difficult to quantify.

Non-financial benefits such as improved customer response, strengthened supplier relationships through information sharing and real-time access to operating and financial data can be vital for the growth of many companies but are hard to convert to monetary profits in

the cash flow statements. Moreover, it might take years for the companies to take the advantage of the all capabilities ERP systems provide.

In addition to what has been mentioned above Markus M. (2000), explain that success depends from the point of view from which you measure it. It can be viewed from many dimensions: in technical terms, in economic, financial or strategic business terms, in terms of smooth running of business operations, from the point of view of managers and employees or from the point of view of customers, suppliers and investors.

- Time

On time and within the budget is another success criterion, which in practice is no easy to achieve. Meeting deadlines is a primary concern of the ERP project management as any delay costs the company additional money. The amount of time needed for project is often underestimated. In length, the whole implementation process can take up from three to five years. Chen (2001); explained that, considering today's business dynamics companies cannot afford spending too much time on the technology implementation in spite of all the benefits as competitors might have enough time to overtake them. Moreover, implementations can increase the risk of project failure; reduce the management and staff commitment, decline productivity and delivery performance and cause the loss of the customers.

- Training

Welti N. (1999); indicated that training and change management are matters that affect all the phases of the ERP implementation project. Not surprisingly, there are many related training as each user group has different needs, preferences and learning potential. For instance, the steering committee members need to have a good project overview and general idea the functionality of the system. Project leaders instead require in-depth knowledge system's functionality and project management. Users have to learn only functions that are related to their tasks in addition to the understanding the new processes and procedures.

Moreover O'Leary D. E. (2000); also explained that training is expensive underestimating the needs and the requirements are the reasons for exceeding the budget. Skilled employees tend to switch their jobs and training of new employees will remain a continuous effort. However, the importance of training cannot be neglected and it is not something that should be conducted only before or after the implementation but rather it has to be present in each part

of the ERP life cycle. Moreover, ERP training has been identified as a requirement in ERP implementation and this has led to creation of an entire industry providing ERP training.

2.1.6.2. ERP Implementation Failure Factors

In spite all the benefits implementing ERP is a risky undertaking. The truth is that due to the behavioral and management related challenges in the implementation process many ERP projects have been terminated. The reasons being: end-user not being ready, resistance to change, lack of user education and training, high turnover of key personnel, lack of communication and support documentation.

In addition, ERP implementation usually requires an extensive level of BPR transformation as it happen in Ethio telecom, which means redesigning existing business processes in way that they are the best supported by the system. The change BPR/Transformation requires produces resistance from the employee's side as they see it as a threat to their job security.

According to O'Leary D.E. (2000) all the risks throughout the ERP implementation cycle can be categorized into three main groups;

- Technical

Technical risks arise largely from the information processing, for instance, problems with software modifications, system integration, data errors, operating systems, network capabilities et cetera.

- Business

Business risks derive from the models, artifacts and processes that are chosen for the ERP implementation such as insufficient resources, competitor's position in the market, cost and benefit judgments, cost and time overruns, problems with customers and suppliers, drop in company's key performance indicators and similar.

- Organizational

Organizational risks occur from the people, organizational structure and environment in which the system is implemented, for example, lack of end user and personnel training, turnover of key personnel, cultural issues, choosing the right consultant, business process reengineering and so forth.

Technical risks are largely related to the information processing technology and are usually handled by the company professionals and vendors. Business and organizational risks are the most critical and difficult ones to manage

2.1.6.3. Critical Success Factors

ERP Implementation success depends on different factors like people management, organizational issues, change management, process reengineering and training. For example, the recent study of L. Ganesh (2010) has identified the following key success factors for ERP implementation:

1. Business Plan, Vision
2. Top Management Commitment and Support
3. Project Champion
4. Focused Performance Measure
5. Change Management Process
6. Effective Communication Plan
7. Risk Management
8. Post Implementation Evolution
9. BPR and Software Configuration

On top of these success factors Gargeya and Brandy (2005) has identified six major critical success factors by using a content analysis model and searching different articles and books.

Factor 1: Worked with Functionality/Maintained Scope

A crucial part of working with the ERP functionality is the ability to streamline operations. When implementing a system, many organizations fail to specify their organizationalobjectives. Job skills are raised by the requirements of the new, post-implementation company. Idiosyncratic ways of doing business, which were manageable, although most likely inefficient, under the "old system" are no longer tolerated. Companies that do not understand these issues early on will face serious problems, Davenport, 2000 (Cited by Gargeya and Brandy, 2005:37).

The ability to implement ERP with minimum customization requires assistance from several other factors, primarily streamlining operations and re-engineering the business – both of which will help the organization to run in a more straightforward manner. Thorough planning

is also a close partner, as it is threaded through the plans from scope to budgets (Gargeya and Brady, 2005: 43).

Scope is the initial "blueprint" of an implementation plan. Within this original plan, budgetary and resource needs are established. During the course of the project, it can be easy, often transparently so, to become so involved in details that additional responsibilities or requirements are added or affected. Suddenly, but not often too late, the realization comes that the project is a victim of "scope creep". The ability to maintain scope is closely related to planning, and it is possible to achieve for companies both large and small (ibid, 2005: 51). Maintaining scope is just as important for small companies as it is for large organizations. The approach for "rolling out" their implementation is another very important consideration.

Factor 2: Project team/Management support/Consultants

The ERP team should consist of the best people in the organization. Building a cross-functional team is also critical. The tam should have a mix of consultants and internal staffs so the internal staff can develop the necessary technical skills for design and implementation. The team should be given compensation and incentive for successfully implementing the system on time and within the assigned budget. The team should be familiar with functions and products so they know what needs to be done to support major process Rosario, 2000 (Cited by Gargeya and Brandy, 2005:63).

A successful implementation is only achievable when high-level executives have a strong commitment to the project. The attitude of senior managers will affect not only the flow of funds and information to the project, but also the subordinate view the project, its future impact upon the company as a whole, and its impact upon the employees as valued and capable individuals. Top management support is needed throughout the implementation. The project must receive approval from top management and align with strategic business goals. This can be achieved by tying management bonuses to project success (Wee, 2000) .

Due to the complexities of implementing an ERP system, most companies choose to hire consultants to help them select, configure, and implement the system. Walti N. (1999) argues that the success of a project depends on the capability of the consultants, because they have in depth knowledge of the software. Somers and Nelson (2004) pint out that consultant should be involved in different stages of the ERP project implementation.

Factor 3: Internal Readiness/Training

The "people element" and training aspect of an ERP implementation have historically received the least amount of attention. The paradox of this is that when this factor is ignored downplayed, primarily because it does not have the largest quantifiable benefit, expenses are greatly increased in the long run. By treating resource training with little regard and financial support, it is not hard to realize the reality of delay, confusion and finical ruin that may result. Some companies insist on assigning a fixed cost or percentage to the training effort, regardless of need or variable conditions (Gargeya and Brady, 2005).

This mistake has certainly been the root cause of many failed implementation attempts. Fortunately, it has also been a source for others to learn from such experiences and avoid repeating the mistake (ibid, 2005).

Gargeya and Brady (2005) states that people element must be handled on two levels. At one level, employee must be trained on the new system in order to use it to continue day-to-day operations. The second level is educational exposure. Managers must know and understand the implications of the system, and must come to a consensus about the changes that will take place. If they agree that change is necessary and possible. If managers are not in agreement or collaboration, then there will be no "enthusiasm", or buy-in, and there may even be active resistance (Davenport, 2000). The reinforcement of a "team environment" is critical to the overall success of an ERP implementation. Members of the project team should encouraged to support each other and work toward common goals. This also leads to a "crosspollination" effect, resulting in a more collaborative and self-sufficient mix of talent and responsibilities (Gargeya and Brady, 2000).

Many companies have been guilty of making simplistic assumptions of how implementation will affect the culture within their organization. Culture changes do not occur magically, and must be handled with utmost care and precision (Davenport, 2000). These changes directly relate to the human cost element, or human psyche. All managers must be changed with the responsibility of controlling workers anxiety and resistance to the ERP system (Aladwani, 2001). A culture with shared values and common aims is conducive to success. Organizations should have a strong corporate identity that is open to change. As part of the change management effort, users should be involved in design and implementation of business

processes and the ERP system, and formal education and training should be provided to help them do so. Education should be a priority from the beginning of the project, and money and time should be spent on various forms of education and training (Roberts and Barrar, 1992). Training, re-skilling and professional development of the IT workforce is critical. User training should be emphasized, with heavy investment in training and re-skilling of developers in software design and methodology. Employees need training to understand how the system will change business processes. There should be extra training and on-site support for staffs as well as managers during implementation (Wee, 2000).

Factor 4: Deal with Organizational Diversity

Organizations have many cultures. Individual branches of the same organization have their own ways of doing things, and each function/department operates with different procedures and business requirements. Not unexpectedly, the larger, more global companies cite their diversity as an obstacle to success (Gargeya and Brady, 2005). Individual units and groups are often companies of their own right, and do not wish to be assimilated in to one corporate culture. "Re-engineering" of the business is required here, both on the "people" level, and on the operational level. This organizational diversity differs from factor #1 (work with functionality/maintained scope) in that the company changes its culture, not just its processes. In addition to having important strategic implications, enterprise systems also have a direct, and often paradoxical, impact on a company's organization and culture. On the other hand, by proving universal, real-time access to operating and financial data, the system allow companies to streamline their management structures, creating flatter, more flexible, and more democratic organizations. On the other hand, they also involve the centralization of control over information and the standardization of process, which are qualities more consistent with hierarchical, command-and-control organizations with uniform cultures (Davenport, 1998). Davenport (1998) argues that for Multinational Corporation, enterprise systems raise another important organizational question: How much uniformity should exist in the way it does business in different regions and countries?

Some large companies have been even more ambitious, using the systems as the basis for introducing a global lean-production model. By imposing common operating process on all units, they are able to achieve tight coordination throughout their business. They can rapidly

shift sourcing, manufacturing, and distribution functions worldwide in response to changing patterns of supply and demand. This capability allows them to minimize manufacturing capacity and reduce both component and finished-goods inventory (ibid, 1998).

For most companies, however, differences in regional markets remain so profound that strict process uniformity would be counterproductive. If companies in such circumstances don't allow their regional units to tailor their operations to local customer requirements regulator strictures, they risk sacrificing key markets to more flexible competitors (ibid, 1998).

Factor 5: Planning/ Development/Budgeting

Planning a sophisticated ERP project should not be taken lightly or forethought mentioned before, there are enormous potential costs associated with such an undertaking. In addition the high costs paid out before the go live date, there can and have been major incurred by companies that were unable to fully develop a comprehensive plan. Planning should be closely identified with maintaining scope during an implementation. Cost overruns and developmental delays are costly, sometimes fatal results of ineffective planning.
(Gargeya and Brady, 2005).

A clear business plan and vision to steer the direction of the project is needed throughout the ERP life cycle. A business plan that outlines proposed strategic and tangible benefits, resources, costs, risks and timeline is critical (wee, 2000). This will help keep focus on business benefits.

There should be a clear business model of how the organization should operate after the implementation effort. There should be a justification for the investment based on a problem and the change tied directly to the direction of the company. Project mission should be related to business need and should be clearly stated. Goals and benefits should be identified and trucked; the business plan would make work easier and impact on work.

Software development, testing and troubleshooting is essential, beginning in the project phase. The overall ERP architecture should be established before deployment, taking in to account the most important requirements (Wee, 2000).

There is a choice to be made on the level of functionality and approach to link the system to legacy systems. In addition, to be meet business needs, companies may integrate specialized software products with the ERP suite. Interfaces for commercial software applications or legacy systems may need to be developed in-house if they are not available in the market (Bingi et al., 1999).

Factor 6: Adequate Testing

System testing has proven to be the key element of success for some companies and a direct cause of failure for others (Gargeya and Brady, 2005).

Gargeya and Brady, (2005) argue that "after months or years of development, it may be feasible to assume that both team members as well as executive management are tired of dealing with the project and just want it to be completed". The result of this myopic thinking, however, is that testing is reduced or ignored, and "red flags" are disregarded. Troubleshooting errors is critical; the organization implementing ERP should work well with vendors and consultants to resolve software problems. Quick response, patience, perseverance, problem solving and firefighting capabilities are important, because vigorous and sophisticated software testing eases implementation (Rosario, 2000). Scheer and Habermann (2000) indicate that modeling methods, architecture and tools are critical. Recruitments definition can be created and system requirements definition can be documented. There should be a plan for migrating and cleaning up data. Proper tools and techniques and skill to use those tools will aid in ERP success. This also proves the importance of another factor – top-management support. Unrealistic fears of delaying the "go-live" deadline indicated that senior executives were not completely "in tune to the importance of completely testing the implementation; even that resulted in a slight delay.

2.1.6.4. ERP as a Change Process

The implementation of ERP system has a major impact on the company and its employees. The sources and types of resistance to change are many. In general, after the implementation of the ERP system the performance of the company gets worse before it gets better in th stabilization process. It is hard for the people to change from the old way of doing things, which they were good at into new ways.

As stated by Mital A. (1997); “The aim of implementing a computer integrated software system is not to limit the human influence on the project even though it is argued that humans cause the major problems but to increase the efficiency and effectiveness of an enterprise through the integration and exploitation of available technology. It is natural, that this requires changes in management thinking and organizational structure”.

- Change Perceived as Negative

The people, who perceive change as negative, wish to hold on to the old way of doing things. Employees can claim to be computer illiterate, say that they did an excellent job before ERP system, and feel uncomfortable to trust the computers, be afraid of failure and have commo belief that their jobs are threatened by the new automated system (Ross, 1999: 51). Determining who resisting changes are may help to understand the employees’ resistance to the ERP system. Management might resist the process changes ERP requires. They are ready to change their technological platform but not the organizational processes. However; implementing ERP means changing your business processes to fit the company’s defined business requirements not another thing around. Middle level managers feel uncomfortable with the change because their job postings can be eliminated as decisions making is pushed down to operational level (ibid, 1999: 63).

In order for the ERP implementation to be successful, top management must analyze these sources of resistance and develop a strategy to overcome them. Building a user acceptance the new system and new way of doing things is a major challenge for the companies. A commonly used strategy to increase user acceptance is training the users through in-house programs and courses. ERP skills are in shortage as there are a small number of people who have a good understanding of business and ERP systems. Organizations have to conduct training for project teams, implementers and users. Some organizations develop key users that accordingly assist other users and so forth.

- Change Perceived as Positive

As per Welti N. (1999); there are people who are looking forward to the new system. They perceive change as positive. The wider use of data throughout the company, access to the data across different departments and locations, easier contacts with colleagues, task enhancement

possibilities and fast access to customer data increases the individual's insight into company's operations and brings in satisfaction based on new opportunities the system offers.

2.1.7. Key Players and Activities in ERP Implementation

Nelson (2004); investigated the importance of the key players and activities in enterprise system implementations, and when their effect is most critical across the ERP system life cycle. Even though the critical success factors of ERP implementations are well covered, the temporal importance of key players and activities is less understood. Tanis (2000); articulated that the involvement of key stakeholders on ERP implementation is crucial for it success; an the identified the key players and activities across implementation process are the following:

2.1.7.1. Key Players

- Top Management

These are the executive organ of the organization who will involve on key and strategic decision making process. Sustained management support and management's involvement in monitoring the progress of the project and providing directions to project teams are essential throughout the implementation project.

- Steering Committee

The steering committee consisting of senior management from different corporate functions, senior project managers and system end users ensures their active involvement and is critical for the success of the project and they make an intense and close follow up during the entire project time. Their impact is highest at the initiation, adoption, adaptation and acceptance stages a at the project life cycle.

- Implementation Consultants

Companies rely on outside expertise for set-up, installation and customization of their software systems. However, consultants' role declines in the last stages of implementation when the system becomes operational.

- Project Team

The project team's business and technological competence determines either the success or failure of the project. Their expertise needs to compensate the team members' lack of

knowledge. Project team's role is more important during the earlier stages of implementation and less important after post-installation.

- Vendor -Customer Partnerships

A close relationship between the software buyer and vendor has a positive impact on the success of ERP project and is critical at the earlier stages of the implementation.

- Vendor's Tools

Rapid implementation technologies and programs such as business process modeling tools, industry specific solutions, bundling server hardware with ERP software, support services and the like can substantially reduce the cost and time of ERP implementation. These tools provided by the vendors have a central role during adoption and adaptation stages.

- Vendor Support

Implementing an ERP system is a life-long commitment and requires continuous investments in adding new modules and upgrading the system. Thus, vendor support, for instance, technical assistance, emergency maintenance, updates, user training and the similar is essential through post-implementation stages.

2.1.7.2. Key Activities

- User Training and Education

The role of training is well covered in the management of the information systems literature. Lacks of user training and understanding how software system is changing the business processes have been the foremost reasons for ERP implementation failure. Due to ERP system complexity training is essential at the acceptance stage and at the latter stages of the life cycle.

- Management of Expectations

Managing user expectations successfully is closely related to the successful implementation of the project. Exaggerated promises of ERP systems fail to meet employees' expectations regardless of the positive contribution to the organization. Therefore, management of expectations is highly important from the initiation to adaptation stage.

- Careful Selection of the Appropriate Package

Right ERP package selection determines the overall success of the project and therefore, it should be emphasized at the initiation and adoption phases.

- Project Management

Project management activities spread out throughout the project life cycle. However, effective project management including project planning and control activities, organizational, political and human issues and many more is critical from the initiation to acceptance stage but less significant during routinization and infusion.

- Customization

The amount of customization needed to the software has to be handled at the early stages of the implementation process. Minimal customization brings usually better results as it means less costs, shorter implementation time, less dependence on vendor services such as system maintenance and upgrades, and et cetera.

- Data Analysis and Conversion

Timely and accurate data in a single consistent format is a fundamental requirement for the effectiveness of ERP systems and data issues are especially critical from the initiation to adaptation stages and less important during the system acceptance and use.

- Business Process Reengineering/ Transformation

As ERP or transformation software comes in a readymade package organizations need to adjust their business processes to the software. Business reengineering/transformation plays a crucial role at the early stages of the implementation but its importance starts to decline from the acceptance stage.

- Dedicating Resources

Having sufficient resource available for the project is crucial to guarantee success. Resource requirements have to be set up early in the process.

2.1.8. Phases of the ERP Life-Cycle

The phases of the ERP life-cycle consist in the several stages that an ERP system goes through during its whole life within the hosting organization. The following ERP implementation Phases has been identified by Jones M. Esteves,(2002: 53); adoption decision

phase, acquisition phase, implementation phase, use and maintenance phase, evolution phase and retirement phase.

1. Adoption decision Phase:-This phase is the one during which managers must question the need for a new ERP system while selecting the general information system approach that will best address the critical business challenges and improve the organizational strategy. This decision phase includes the definition of system requirements, its goals and benefits, and an analysis of the impact of adoption at a business and organizational level.
2. Acquisition Phase:-This phase consists of the product selection that best fits the requirements of the organization. Thus, minimizing the need for customization. A consulting company is also selected to help in the next phases of the ERP life-cycle especially in the implementation phase. Factors such as price, training and maintenance services are analyzed and, the contractual agreement is defined. In this phase, it is also important to make an analysis of the return on investment of the selected product.
3. Implementation Phase: -This phase consists of the customization or parameterization and adaptation of the ERP package acquired according to the needs of the organization. Usually this task is made with the help of consultants who provide implementation methodologies, know-how and training.
4. Use and maintenance Phase: -This phase consists of the use of the product in a way that returns expected benefits and minimizes disruption. During this phase, one must be aware of the aspects related to functionality, usability and adequacy to the organizational and business processes. Once a system is implemented, it must be maintained, because malfunctions have to be corrected, special optimization requests have to be met, and general systems improvements have to be made.
5. Evolution Phase: -This phase corresponds to the integration of more capabilities into the ERP system, providing new benefits, such as advanced planning and scheduling, supply-chain management, customer relationship management, workflow, and expanding the frontiers to external collaboration with other partners.
6. Retirement Phase: -This phase corresponds to the stage when with the appearance of new technologies or the inadequacy of the ERP system or approach to the business

needs, managers decide if they will substitute the ERP software with other information system approach more adequate to the organizational needs of the moment.

2.1.9. Reasons for Ethio Telecom to Go for ERP

For the developing world, a modern telecommunications infrastructure is not only essential for domestic economic growth, but a prerequisite for participation in competitive world markets and for attracting new investments. In the advanced industrial countries of Europe and North America, universal telecommunications services have penetrated every sector of society. In many developing countries the limited availability of service is constraining economic growth.

Apart from the telecommunication infrastructure deployment it is highly important to equip the back office activities through ITC in a manner that can highly assist telecommunication activities, and implementation of modern information and management guarantees successful improvement in competitive ability. The offered solutions are in demand by the seeking to enhance monitoring systems and upgrade their business activities.

For companies to improve transparency of their business, they need to have up-to-date information about all operation and financial indicators, assets and resources of all departments and divisions. Actuality is very important: information for the previous quarter or month will not help in making justified decisions. Hence, the requirements for a powerful system that can quickly process large volumes of information are highly required.

ERP is an information system for company management, designed for the efficient planning and management of all company resources, as well as for the automation of all or individual key business processes. This solution enables proactive resources management for the quick adaptation of business processes to changing market conditions and allows evaluations of company's current state of affairs, which helps to increase the company's competitiveness across the board.

With the similar reasons mentioned above ethio telecom also introduce this system with the vision of obtaining world class telecom service provider. To be a world class operator there are many requirements set by ITU that all telecom operators across the world need to fulfill, and some of the requirements are having a well-defined business process as per the international standard named eTom and PCMM, supporting all this business process by

information system mainly ERP and deploying the best quality of service for the customers in all aspects of product and services. Hence; for the fulfilling the expected requirement and to support the steady growth of the country's economic development ethio implemented an integrated ERP system on December 01/2011 on a modular manner. And mainly the license for this system implementation has been procured from the world well known software developer named Oracle through open tender and integrated by softpro (i.e. Indian software integrator). And the major reasons that drive the company to choose for ERP are mainly related to improving company's performance and decision making, to reduce labor costs, bureaucracy and other related errors. And the other reasons are: to enhance the integration among work units, and establish organizational standardization across different locations.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

Research methodology is the set of processes, methods, tools and techniques deployed and used to conduct a research and reach to the final output of the study. The methods and techniques used for this research are explained here below.

3.1. Research Design

The objective of the research is to assess and describe the practice and challenges implementing ERP in ethio-telecom, so for the research which has the above mentioned objective descriptive type of research is good. The research design of this study is Descriptive. Descriptive researches are those studies which are concerned with describing the characteristics of a individual, or of group and it includes surveys and fact-findings enquire of different kinds (Sakaran, 2003:58).

Due to the nature of the research and to achieve the specific and general objectives of the study, a mixed quantitative and qualitative method used to analyze the collected data.

According to (Creswell, 2003:17) the use of both approaches is tandem so that the overall strength the study is greater than either qualitative or quantitative research. Thus, this design is selected to express the current phenomenon of a situation and gives prediction depending on the finding of the research and to describe the basic questions stated in the research.

3.2. Data Collection

In order to achieve its objectives the research has been based on both primary and secondary data. The secondary data were collected from the company's work processes,policies, procedures, forms and other documents which are linked with the ERP implementation and also different literatures on the area.

The primary data were collected through questionnaire. It includes open ended and close ended questions. According to (Kothari, 2004:32), this instrument of data collection is quite popular, particularly in case of big enquiries.

3.3. Population and Sample Design

The population utilized for the study were all Ethio- telecom employees residing in the six zone offices and Head quarter in Addis Ababa.Generally representatives of the total population has been included in the research study. All parties involved in the implementation process of Enterprise Resources planning System are represented by the sample. As a division human resources, Finance & Sourcing and Facility divisions are major source of information.

The organization has five hierarchical levels. They are chief Officers, officers, managers, supervisors, and staffs. The first three levels are classified as management group whereas the last two levels are categorized as non-management group. Therefore, to be representative the sampling considered both groups. In determining the actual sample size the researcher taken in to account the minimum required returned sample size, type of data analysis to be used and the expected rate of missing data.

There are 7,423 employees in Addis Ababa 1,512 were staffed under those three divisions in which ERP is fully deployed. Because of the geographical constraint, the study was concentrated on Addis Ababa. Moreover, studying different zones and regions would not bring significant different since company follows centralized management system most of activities are similar. As a result, 1,512 employees were taken as a population for this study.

To determine the sample size, formula of Glenn D. Israel from University of Florida was used.

$$n_o = \frac{Z^2 pq}{e^2}$$

Equation 1

This is valid where:

n0 = sample size

Z2 = abscissa of the normal curve that cuts off an area αat the tails (1 – αequals the Desired Confidence level, e.g., 95%)

e = desired level of precision

p = estimated proportion of an attribute that is present in the population, and q is 1-p.

*The value for Z is found in statistical tables which contain the area under the normal curve Then, the sample size determined for the large population have been used to determine sample Size for a finite population. Therefore, the following formula is derived from equation 1:

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Equation 2

Where n is the sample size and N is the population size.

Hence, the sample size for the given population (1512) at e = ±5%, confidence level = 95%, And p = 0.5 (maximum variability)

Equation 1:

(1.96)2 (.5) (.5) = 385 = given

(.05)2

Finally, the sample size is determined using equation 2:-

n = 385

1+(385-1)= **307 Sample size**

1512

Based on the above sample rate the questionnaire distributed and the response rate summarized as follows:

Type of Division	**Total population**		**Total**	**Distributed**		**Collected**
	Managers	**Non managers**		**Managers**	**Non-managers**	
Finance	24	312	336	5	64	65
Sourcing & Facilities	30	995	1025	6	202	143
Human Resource	18	133	151	4	27	27
Total	**72**	**1440**	**1512**	**15**	**293**	**235**

3.4. Data Presentation and Analysis

The collected data are clearly presented by using tables which have been expressed in the form of frequency, percentage and mean. Then, descriptive analysis technique has been applied to manipulate the organized data. Meanwhile, SPSS V-20 use as the main tool to manipulate the data.

3.5. Reliability

The test of data reliability is an important test of sound measurement. A measuring instrument is reliable if it provides consistent results, (Kothari, 2004). Moreover, reliable measuring instrument does contribute for validity. Hence, to prove reliability of the instrument, the researcher distributed some questionnaires as a pilot test and then makes some adjustments accordingly.

3.6 Ethical Considerations

The information /data obtained from any source was for the exclusively use of this study. It cannot be disclosed to any party & rather kept confidential .The right of respondents or other data provides are respected.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRTATION

This chapter presents the results of the study and interpretation of the findings. The chapter comprised of two sections. The first part presents the profile of participants showing gender, age group, level of education, work experience, and position of respondents using cross tabulation. The second section presents analysis of the study variables by using tables consisting of percentages.

4.1 Demographic Profile of Respondents

Table 4.1:Gender, Age, Education label, Employee Categories, Service years and Work units of respondents

Demographic Information	Classificaiton	Frequency	Percent
Gender	Male	149	64%
	Female	86	36%
	Total	235	100%
Age in years	<25	12	4%
	26-35	142	63%
	36-40	52	19%
	41 and above	29	14%
	Total	**235**	**100%**
Level of Education	Secondary School	0	0
	Collage Diploma	8	5%
	BA/BSC	191	86%
	Masters and Above	36	9%
	Other	0	0
	Total	**235**	**100%**
Employees Category	Managment	38	16%
	Non-Managment	197	84%
	Total	235	100%
Service Years	<5	10	3%
	6-10	111	47%
	11-15	65	30%
	16-20	25	10%
	21 and Above	24	10%
	Total	**235**	**100%**
Division	Finance	65	27%
	Sourcing and Facilites	143	60%
	Human Resource	27	13%
	Total	**235**	**100%**

After summarized the collected data it is easy to see that the composition of the company employee is highly dominated by male employees, and takes 64% percent of position of the company whereas 36% percent of by female employees. This shows that the human resource of the company give attention for females at the process of hiring employees to make the composition proportionally.

Age of the respondents is one of the most important characteristics in understanding their views about the particular problems; by and large age indicates level of maturity of individuals in that sense age becomes more important to examine the response. It is evident from the table that based on the response rate of the age, 63% of the employees are between the age 26 and 35, and the other19% are between 36 and 40. Furthermore, 14 % of the employees are at the age of 40 or above, and the remaining 4% of the employees are either they are on the age of 25 or below that. This indicates that the company staffed with young and energetic employees. In other words, most of the employees are belonging in the productive age group.

Education is one of the most important characteristics that might affect the person's attitudes and the way of looking and understanding any particular social phenomena. In a way, the response of an individual is likely to be determined by his educational status and therefore it becomes imperative to know educational background of the respondents.Based on the above table the educational level of employees of the company, 86% of the employees are first degree holders and the other 9% of the employees have specialization at a master's degree level and above, whereas the remaining 5% is covered by diploma holders. It can be conclude from the above table, majority of the employees have at least a first degree and we can say that human resource profile of the company in terms of educational background is in a good status.

As shown in Table of respondents, 16% of the respondents hold managerial positions where as the remaining 84% of the respondents are non-management employees. Based on the head count report as of January,2016 (which was taken for the sample determination) management

category covers 16% of the total population and the rest 84% are non-management employees.

As shown in Table majority of the employees have relatively shorter existence in the company. And to be specific, 47% of the respondents have been working with the company for at least 6 to ten years, whereas 3% of the respondents has an experience 5 years or less. Moreover, the other 30% of the respondents have an experience which spans from 11 up to 15 years while 10% of the respondents have been working with the company for at least 16 up to 20 years and the remaining 10% have longer experience which is 21 years and above in the company.

As it is already explained in the research design and methodology part, the researcher has focused on three divisions considering ERP implementation, and these divisions are considered as strata. Accordingly, out of the 235 employees who returned the questionnaire, 27% of respondents belong Finance Division and 60% Sourcing and Facilities division while the remaining 13% of respondents are from Human resources division.

4.2 The project team clearly understand the change in its organization structure, strategies and process for ERP implementation.

Table:4.2 The project team clearly understand the change in its organization structure, strategies and process for ERP implementation.

Items	%Within Category	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
The ERP team had well prepared and committed for system implementation	Managerial	4%	38%	8%	44%	6%	100%
	Non-Managerial	0%	36%	12%	49%	3%	100%
Is there sufficient to measure the operation of the new ERP system?	Managerial	17%	47%	14%	22%	0%	100%
	Non-Managerial	8%	53%	9%	24%	6%	100%
There were communication channels to let user know the project progress and to helpthem solve the problem	Managerial	2%	48%	18%	26%	6%	100%
	Non-Managerial	5%	57%	7%	29%	2%	100%
The project team fully understands the	Managerial	4%	48%	12%	32%	4%	100%

customization Process with the company policy and procedure	Non-Managerial	8.5%	43%	10%	30.5%	8%	100%
Coordination and Cooperation between project team of each division	Managerial	0%	20%	32%	44%	4%	100%
	Non-Managerial	2%	16%	22%	49%	11%	100%
The system is ease for cross-functional integration	Managerial	0%	12%	28%	52%	8%	100%
	Non-Managerial	2%	18%	32%	48%	0%	100%
The company apply and utilize all feature of ERP system	Managerial	8%	39%	30%	12%	11%	100%
	Non-Managerial	12%	32%	34%	18%	4%	100%

Sources: primary data, Nov. - 2016

For the question which the ERP team had well prepared and committed for system implementation, 50% of the respondents from the management category replied that the ERP team has committed successful implementation of the system. Similarly, 52% of non-management respondents also reflected the same viewpoint. On the contrary, 42% of the respondents from management and 36% among non-management employees believed that the ERP team not committed for successful implementation of the system. The remaining 12% of non-management respondents and 8% of management members are neither of the two sides. From this fact, we can conclude that as majority of the respondents believe that knowledgeable, capable and effective project team play great contribution for successful ERP implementation of the system.

Concerning sufficient measure of the operation of the new ERP system, 64% of the respondents from management category and 61% from non-management group respond that there is no sufficient measure for the operation of new system. On the other hand, 22% respondents from management and 30% from non-management have agreed that the system has been sufficient measure. The rest 14% from management and 9% from non-management respondents are at the middle of the road; they neither agree nor disagree. From this interpretation we can comprehend that most of the respondents from both side believe that the system has not sufficient measure of operation new system. This implies that it is difficult to know the advantage and disadvantage result from the operation the system.

Regarding communication channels to let user know the project progress and to help them solve the problem, 32% of management respondents and 31% from the non-management group replied

That there is communication channel to let user know and solve the problem before go live date. On the other hand, 50% from the management group 62 % from non-management group replied that there is no communication channel. The remaining 18 % of the management respondents and 7% of non-management are on the midway. As a result, it is possible to say there is no communication channel to let user know the project status and participate on the problem before go live date.

For the question asked about the project team fully understands the customization Process with the company policy and procedure, 52% of the respondents from management and 51.5% from non-management employees answered that the team are not fully understand the customization process whereas, 36% of management respondents, like that of 38.5% of non-management employees, replied that the team are fully understand the customization process the other 10% of the respondents from non-management and 12% of management respondents declared that they neither agreed nor disagree about they are neutral. From this fact, we can deduce that majority of the respondents believe that the project team not fully understand the customization process. This implies that if the project team lack for understanding of customization the company face lack of expertise on the company side and depend on foreign integrators this makes the company to pay for expertise in foreign currency.

For the question asked about Coordination and Cooperation between project team of each division20% of the response from management and 18% from non-management answered that no coordination and cooperation between project team.On the contrary 48% from the management respondents and 60% from non-management employees replied that there is coordination and cooperation between project team of each division. The remaining 22 % of non-management respondents are on the midway; they are neutral like that of 32% of the respondents from the management classification. Based on majority of respondents

coordination and cooperation between each project is there. Therefore it has a benefit of an organizational success on implementation process.

Regarding easiness and cross-functional integration,12% from the management and 20% from non-management answered the system is no ease for cross functional integration. On the other hand 60%from the management and 48% from non-management replied that the system is ease for cross functional integration. The remaining 28% from the management and 32% from non-managements are neutral. From this fact we can infer that the system ease for cross functional integration.

For the question asked about the company apply and utilize all feature of ERP system;47% from the management and 44% Non-management group answered that the company not utilize all feature of ERP system. The other 23% from the management group and 22% from non- management group replied that the company utilizes all feature of ERP system. The remaining 30% from management group and 34% from non-management group they don't give any comment. From this fact, we can deduce that majority of the respondents believe that the company not apply and utilize all feature of ERP system. Once the company procures the system it has to be utilizing fully all features of ERP system, unless the huge investment made on it treated as expired cost.

4.3 Items about customization of the system in line with companies activities.

Table: 4.3 Customization of the system in line with company's activities

Items	%Within Category	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Is there the correct assignment of the right person to give an information for customization from	Managerial	4%	47%	25%	16%	8%	100%
	Non-Managerial	9%	52%	14%	20%	5%	100%

each division							
The system is fully customized in line with the companies policy and procedure	Managerial	4%	12%	32%	52%	0%	100%
	Non-Managerial	6%	22%	38%	32%	2%	100%
Country's policies and procedures are considered during integration	Managerial	0%	28%	18%	48%	6%	100%
	Non-Managerial	4%	36%	30%	29%	1%	100%
Additional features obtained from the system beyond the defined requirements	Managerial	6%	42%	24%	26%	2%	100%
	Non-Managerial	9%	52%	34%	5%	0%	100%

Sources: primary data, Nov. – 2016

Concerning the question which was raised about the correct assignment of the right person to give information for customization from each division 51% respondents from management category and 61% from non-management group respond that there is no the correct assignment of the right person to give the correct information. On the other hand 24% respondent from the management group and 25% from non-management group respond that there is the correct assignment of the right person. The remaining 25% from the management group and at the same manner 14% from non-management on the midway means they didn't give any response. From this fact we can infer that majority of the respondents believe that there is no correct assignment of the right person to give information. Lacks of assigning the right person to give the right information makes the customization process on the wrong way and take too much time including cost to accomplish and take correction on the project.

Concerning the question which was raised customization of the system in line with the company's policy and procedure, 16% respondent from the management and 28% from non-management group respond that the customization of the system is not in line with the company's policy and procedure. On the other hand 52% respondent from the management

and 34% from non-management group respond that the customization of the system in line with the companies polices and procedure. The remaining 32% from the management and 38% from non-management group they didn't give any response they are neutral .From this fact we can infer the majority of the respondent believe that customization of the system is in line with the companies and procedure.

Concerning the question additional features obtained from the system beyond the defined requirements48% respondent from the management and 61% respondent from non-management group respond that there are no additional features obtained from the system beyond the defined requirements. On the other hand 28% from the management group and 5% from non-management group respond that there are additional features obtained from the system beyond the defined requirements. The remaining 24% from the management group and 34% from non-management group their respond are neutral. We can deduce from the overall respondent there is no additional feature obtained from the system beyond the defined requirements.

4.4 Items about capacity building done on the system

In government system for transformation like adoption of automated system require a systematic change management in the existing system. Capacity Building is a vehicle to achieve the change management. A systematic Capacity Building Plan would help in strengthening of the existing capacity and its optimal use to achieve the goal.

Table:4.4 Capacity building done on the system

Items	%Within Category	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
There is adequate training material on ERP modules in my organization	Managerial	0%	8%	12%	62%	18%	100%
	Non-Managerial	5%	9%	14%	55%	17%	100%
There is continuous training on new	Managerial	18%	46%	8%	21%	7%	100%
	Non-						

technologies among staff	Managerial	26%	52%	4%	12%	6%	100%
The training given on the system was adequate and useful to your functional module	Managerial	11%	26%	9%	38%	16%	100%
	Non-Managerial	8%	37%	12%	27%	16%	100%
Further enhancement training is required on the system	Managerial	0%	2%	9%	68%	21%	100%
	Non-Managerial	0%	5%	19%	54%	22%	100%
There was a gap between the imparted training and Ethio telecom business requirements	Managerial	4%	12%	32%	41%	11%	100%
	Non-Managerial	1%	3%	45%	38%	13%	100%
The support exerted by integrators make the users familiar with the system	Managerial	5%	32%	35%	21%	7%	100%
	Non-Managerial	7%	45%	32%	11%	5%	100%
Ethio telecom super users are trained in a way that can fully replace the integrators support activity	Managerial	9%	48%	5%	24%	14%	100%
	Non-Managerial	16%	49%	2%	33%	0%	100%
The level of dependency on integrates are still high	Managerial	3%	6%	35%	52%	4%	100%
	Non-Managerial	2%	2%	24%	69%	3%	100%
The functional and technical support of successful in relation to knowledge transfer	Managerial	2%	38%	19%	22%	19%	100%
	Non-Managerial	6%	52%	11%	22%	9%	100%

Sources: primary data, Nov. - 2016

For the question raised to adequate training material on ERP modules in my organization,8% respondent from the management group and 14% respondent from non-management group respond that there is no enough training material on ERP modules in the organization. On the other hand 80% respondent from the management group and 72% from non-management group respond that there is adequate training material on ERP module in my organization. The remaining 12% from the management group 14% from non-management group their response on the middle of the road means they are neutral. We can infer from this response the company has adequate training materials so having adequate training materials simplify life on the way to equip system users.

For the question raised continuous training on new technologies among staff 64% respondent from the management group and 78% respondent from non-management group respond that There is no continuous training on new technologies among staff. On the other hand 28% from the management group and 18% from non-management group respond there is continuous training on new technologies among staff. The remaining 8% from the management and 4%from non-management at middle of the road means they are neutral. From the respondent we can deduce that the continuous training given on the new system not enough. It is known that in today business the technology is updated day to day so due to this the system complexity increased from time to time as a result continuous training is important to coup up with the change. So the company is thinking the way to address continuous training for its employees.

For the question raised further enhancement training is required on the system 2% respondent from the management 5% from non-management group respond that no need of further enhancement training. On the other hand 89% from the management group and 76% from non-management group respond that there is a need for further enhancement training. The remaining 9% respondent from the management group and 19% from non-management group their response neutral. So from these responses we can conclude that the need for further enhancement is very high.

For the question raised gap between the imparted training and Ethio telecom business requirement, 16% respondent from the management and 4% from non-management group respond that there is no gap between the imparted training and Ethio telecom business requirement. on the other hand 52% from the management group and 51% from non-management group respond that there is a gap between the imparted training and Ethio telecom business requirement. The remaining 32% respondent from the management and 45% from non-management group neither of the two sides. From this response we can infer that there is a gap between business requirement and the imparted training. If the imparted training has a gap with the company business requirement it crate a miss on the real situation and the end users resulted for errors; So the company needs the way of reconciling its business requirement with the imparted training.

Concerning the support exerted by the integrators in making the end-users familiar with the System, 37% respondent from management and 52% from non-management said that the integrators do not make the end user familiar with the system. On the other hand 28% from the management and 16% from non-management respond that there is a support of integrators to familiarize the end user with the system. Moreover, 35% from the management and 32% from non-management have stated that they are neither of the two. From this fact we can infer that the majority of employee respond that the integrator do not support the end-users familiar with the system. system training are required for increasing awareness of the business about ERP system and ERP business process; so lucks of doing this for end user the company may not successful at a real situation of operational activities. In addition to this the company obligate to hired professionals expertise.

Regarding super users are trained in ways that can fully replace the integrators support activity; 57% of management group respondents and 65% non-management have not agreed that the super users are not trained in ways that fully replace the integrators support activity. On the other hand 38% from the management and 33% from non-management group agreed that super users are trained in ways that can fully replace the integrators. The remaining 5% from the management and 2% from non-management have neutral attitude about this aspect. So from this response we can conclude that Super users are not trained in ways that can fully

replace the integrator support activity. This implies that the role of super user within the organization answer system functionality and business process questions in addition they can provide immediate response for end users for business process help on operational activities. So if super user can not trained in the way that can replace integrator the company depend on external integrators. Having this in mind the company pays attention for training during implementation process because it has great impact on post implementation also.

Regarding the level of dependency on integrates are still high; 9% of the respondents from the management group replied that the level of dependency on integrates is not high. Likewise, 4% from the non-management also reflect the same view. On the contrary,56% from the management and 72% from non-management respond that the level of dependency on integrates are still high. The remaining 35% from management and 24% from non-management prefer silence. From this fact we can infer that the level of dependency on integrates are still high. This makes the company to expose for additional cost and different business risk because the company always depends on external integrators.

Concerning the functional and technical support of successful in relation to knowledge transfer; 40% from the management group and 58% from non-management group respond that the technical support in relation to knowledge transfer are not successful. On the other hand 41% from management and 31% from non-management believe that technical knowledge transfer is successful. The remaining 19% &11% from management and non-management respectively they response was neutral. From this fact we can infer that technical knowledge transfers are not successful.

4.5 It's about the management commitment and support for smooth implementation of ERP system

Table:4.5 The management committment and support for smooth implementation of ERPsystem

Items	%Within Category	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Adoption and implementationof ERP system supported by the management in line with the Organization mission and vision	Managerial	0%	4%	51%	41%	4%	100%
	Non-Managerial	9%	54%	18%	19%	0%	100%
The management consider ERP implementation is part of our Organization long term strategy	Managerial	3%	12%	42%	39%	4%	100%
	Non-Managerial	9%	24%	28%	32%	7%	100%
Work Culture that favors collaboration is important to ERP implementation.	Managerial	0%	0%	16%	72%	12%	**100%**
	Non-Managerial	2%	10%	22%	59%	7%	**100%**

Sources: primary data, Nov. - 2016

Concerning adoption and implementation of ERP system supported by the management in line with the organization mission and vision; 4% from the management group and 63% from non-management group respond that the adoption and implementation of ERP system supported by management in line with the organization mission and vision is not good. On the other hand 45% management and 19% from non-management respond that the management consider ERP implementation as an organization mission and vision. The remaining 51% from management and 18% from non-management they are neither of the two means their

response neutral. From this fact we can infer that the management not considers adoption and implementation of ERP system as an organization mission and vision.

For the question raise the management considers ERP implementation is part of our Organization long term strategy; 15% from the management and 33% from non-management group respond that the management not considers ERP implementation as long term strategy. On the other hand 43% from the management and 39% from non-management respond that the management considers ERP implementation as long term strategy. The remaining 42% from management and 28% from non-management their responses are neutral. From the given response we can conclude that the management do not considers ERP implementation as long term organizational strategy.

Regarding work Culture that favors collaboration is important to ERP implementation; 0% from the management group 12% from non-management group respond that work culture does not favors for collaboration of ERP implementation. On the contrary 84% from the management and 66% from non-management respond that work culture that favors collaboration for smooth implementation of ERP system. The remaining 16% from the management and 22% from non-management respond that neither of the two. From this fact we can conclude that work culture favors collaboration for smooth implementation of ERP system.

4.6 It's about the change management factors that have an impact on the implementation of ERP system?

Table:4.6 The change management factors that have an impact on the implementation of ERP system?

Items	%Within Category	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Managment approch to change was successful in managing the transition to ERP	Managerial	3%	15%	19%	54%	9%	100%
	Non-Managerial	0%	33%	14%	47%	6%	100%
Recognizing employee for contribution change initiative	Managerial	12%	38%	12%	28%	10%	100%
	Non-Managerial	12%	49%	22%	15%	2%	100%
Managment asked employee what should change more than they told employees what will.	Managerial	2%	19%	33%	42%	4%	100%
	Non-Managerial	8%	46%	9%	37%	0%	100%
Adequate resource given for change	Managerial	0%	0%	38%	50%	12%	100%
	Non-Managerial	0%	4%	26%	56%	14%	100%

Sources: primary data, Nov. - 2016

Regarding Managment approch to change was successful in managing the transition to ERP;18% from managment group and 33% from non-managment group respond that managment approch in managing the transition not seccessful. On the contrary 63% from the management and 53% from non-management respond that management approach in managing of transition is successful. The remaining 19% from the management and 14% from non-management group respond that neither of the two. From this fact we can conclude that management approach in managing the transition was successful.

For the question recognizing employee for contribution to change initiative;50% from the managment and 61% from non-managment group respond that recongnizing employee in change initiative not adaptable.On the other hand 38% from the management and 17% from non-management group respond that employees are recognize in change initiative. The remaining 12% from the management and 22% from non-management their response neither of the two.
So from this fact we can infer that recognizing employee for contribution to change initiative not adaptable.

Regarding management asked employee what should change more than they told employees what will;21% from the management group and 54% from non-management group respond that management not ask employee what should change more than they told. On the other hand 46%from the management group and 37% from non-management group respond that the management ask employee about change more than they told. The remaining 33% from the management and 9% from non-management their response neutral. From this response we can conclude that the management asked employee what should change more than they told employee what will.

For the question about adequate resource given for change;0%from the managment group and 4% from non-managment group rspond that adequate resorce is not allcated for the change.on the contary 62% from the managment group and 70% from non-managment group respon that there is the allocation of enough resource for the change.the remaning 38% from the managment group and 26% from non-managment group thier response nither of the two.from this fact we can infer that there is adequate rseorce alloted for the change by the organization.

4.7 Items about Success of ERP implementation

Table:4.7 Success of ERP implementation

Items	%Within Category	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Total
Decreased the financial close cycle	Managerial	0%	2%	23%	51%	24%	100%
	Non-Managerial	2%	7%	34%	55%	2%	100%
Improved decision making	Managerial	7%	18%	22%	43%	10%	100%
	Non-Managerial	2%	15%	24%	48%	11%	100%
Improved on time delivery	Managerial	2%	9%	16%	47%	26%	100%
	Non-Managerial	4%	13%	19%	48%	16%	100%
Lower time for pay slip generation	Managerial	2%	6%	32%	52%	8%	100%
	Non-Managerial	0%	5%	29%	54%	12%	100%
Better Coordination and cooperation between functional departments.	Managerial	0%	12%	30%	46%	12%	100%
	Non-Managerial	0%	3%	25%	59%	13%	100%

Sources: primary data, Nov. - 2016

Regarding whether ERP implementation decreased financial close cycle, 75% of management respondents have agreed that deployed ERP system reduces the financial closing cycle. Likewise, 57% of non-management employees have also taken the same viewpoint. On the other side, 2% of management as well as 9% non-management representatives have argued that there no reduction in the financial closing cycle time after the deployment of ERP system. Apart from this,34% of non-management employees have taken neither of the two

sides like that of 23%management respondents.From the above respose we can infer that implementation of ERP decrease financial close cycle.

For the question raise improved decision making;25% from the management and 17% from non-management group respond that ERP implementation not improve decision making. On the other hand 53% from the management group and 59% from non-management group respond that implementation of ERP improve decision making. The remaining 22% from the management and 24% from non-management their response neutral. From this fact we can conclude that implementation of ERP improve decision making.

By the same manner for the question arises improved on-time delivery;11% from management and 17% from non-management respond that ERP implementation not improve on-time delivery more over 73% from management and 64% from non-management respond those implementations of ERP system improve on time delivery. The remaining 16% from management and 19% from non-management are neither of the two. From the above response we can conclude that implementation of ERP improve on-time delivery.

Concerning lower time for pay slip preparation;8% from the management 5% from non-management group respond that implementation of ERP not lower for preparation of pay slip. On the other hand 60% from the management and 66% from non-management group respond that implementation of ERP lower time for slip generation. The remaining 32% from management and 29% from non-management their response neutral. From this response we can infer that implementation of ERP takes lower time for slip generation.

Regarding whether Better Coordination and cooperation between functional departments;12% from the management and 3% from non-management respond that there is no better coordination and cooperation between functional department. On the other hand 58% from the management group and 72% from non-management group respond that there is better coordination and cooperation. The remaining 30%from the management group and 25% from non-management group are neither of the two. From the above response we can conclude that there is better coordination and cooperation between functional departments.

CHAPTER FIVE

FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of findings

- ✓ More than half of respondents belive that the project team clearly understand the change in its organizational structure, strategies and process for ERP implementation.
- ✓ About sufficent measure of operation of new system and commnication channels to let user know the project progress and to help them solve the problem much of the respondent respond that there is no sufficient measure of oprational as well as commnication channels to let user know the project progress and participate on the problem of implementation.
- ✓ Regarding customization of the system eventhough the company has its own problem to give the right information on customiztion procss majority of the respondant respond that the customization done according to companies policy and procedure.
- ✓ More importantly examine and discuss nine points under capacity building but the finding indicate that the capacity building is not properly addressed to the end users as well as for operational and technical support integrators.
- ✓ From the managment committment point of view majority of respondant respond that adoption and implementation of ERP system supported by the managment in line with the organizational mission and vision is not good.
- ✓ Related with recognition of employee for contribution to change initiative majority of respondant from managment and non-managment respond that there is no recongnition of employee for change initiatives.
- ✓ Lack of utilizing all feature of ERP system during implementation process.

5.2 Conclusion

Based on the findings of the research, the following conclusions can be drawn;

- ✓ The project team clarly understand that the change in its organizational structure,startegies and process with collaboration of top management diffrent departement and users during ERP implementation.
- ✓ On second phase of ERP implementation based on the finding most of employee respond that the customization process in line with the company policy and procedure to fit the business process of Enterprise.
- ✓ Eventhough as the ERP system are new to the enterprise users,superusers and techinical support as the finding indicate that majority of the respondant replied that there is no enough traning to equip users of ERP.Due to this poor knowldge transfer users were not given a clear idea of the system hence the dependcy of the company on integrators is still high this leads to the company inccured additional cost in forgin currency.
- ✓ Based on the finding as majority of respondant replaied that the committement and support of managment for smooth implementation of ERP system is not enough.
- ✓ As the fiding indicate that the change in managment have an impact on the implementation of ERP system.
- ✓ ERP implementation enables organization competitive in financial close cycle,decision making,on time delevery,time for payslip generationa and better coordination and cooperation between functional departements.
- ✓ As the study show that the company not utilizing all fature of ERP system still on second phase of the implementation process.

5.3 Limitation of the study

Ethio Telecom has lots of branches all over the country. So due to lack of enough time, financial resource constraints and distance constraint the study will not cover all branches of the organizations'. The data is going to be collected only from head office and those branches located in Addis Ababa.

5.4 Recommendation

- ✓ Top managment is expected to provide support in the ares of commiting to the ERP project ,sufficent financial and human resource,there might be also several occasions when the top managment need to take strong and quick decision for smooth implementation of ERP system.So Ethio Telecom managment has to exert all its effort for smooth implementation of ERP system with in the organization.
- ✓ Organization invest in enterprise resource planing (ERP) as a way of making their opration more efficent, implementing an ERP system is overwhelmingly seen as an IT project but understanding the importance of employee training has become the down fall for some, according to ERP experts enterprise resource planing 90 percent of people,process and poltices and 10 percent about IT, misunderstandig that and you are heading for failure.Having this in mind Ethio Telecom has to do a lot by delivering the requird training programms for both end user as well as super user to bring the required level of skills including the customization process on the system.Once an organization identifay the right target group for training and well trained them the organization of employee are work more efficently and competently,reduce cost and save time and there is also reduction of risk because is little error in the process of using the system.
- ✓ Allowing user to participate on the project justify that the implemented system handle the required task in a real situation according to specification. So Ethio Telecom has to create a way for users participation on system implementation.
- ✓ Once the company procure the system it has to be utilizing all feaure of ERP system unless lack of full implementation prvent the company from realizing the expected oprational benefit.

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Appendix

ST.MARY'S UNIVERSITY

MBA IN GENERAL MANAGEMENT

Researcher: Enderas Addisse

Dear Respondents

QUESTIONNAIRE

The main purpose of this questionnaire is to gather information about ERP implementation issues and challenge of ERP implementation in Ethio telecom. This information is being sought solely for academic purpose and will be treated with confident. Thus your cooperation in responding to this questionnaire is important for the researcher. Therefore, your genuine response to questions is vital for the quality and successful completion of the study.

Contact Address:

Enderas Addisse

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E-mail: enderasadd@gmail.com

Part I: Background Information - Please put '**X**' in the box

1.1. What is your gender?

Male ☐ Female ☐

1.2. Age Group:

≤ 25 ☐ 26 – 35 ☐

36 – 40 ☐ 41 and above ☐

1.3. Educational Status:

A) Secondary education ☐ B) Collage Diploma ☐

C) BA/BSC ☐ D) Masters & Above ☐

Other please specify _____

1.4. Your service year:

≤ 5 ☐ 6 – 10 ☐

11 – 15 ☐ 16 – 20 ☐

21 and above ☐

1.5. Which division are you working in?

Finance ☐ Sourcing & Facilities ☐

Human Resources ☐

1.6. The position you hold in the organization

Staff ☐ Supervisor ☐

Manager Officer ☐

Other _____

Part II: Issues Related with the study area

Use a scale of 1-5 Where:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

1.Do you think does the project team clearly understand the change in its organization structure, strategies and process for ERP implementation?

Please read each statement carefully and show the extent of your agreement on the statements by **circling** the numbers in the column using the following rating scale (Likert Scale).

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

Ser. No.	**STATEMENT**	Scale				
1.1	The ERP team had well prepared and committed for system implementation	1	2	3	4	5
1.2	Is there sufficient evaluation to measure the operation of the new ERP system?	1	2	3	4	5
1.3	There were sufficient communication channels to let user know the project progress and to help them solve the problem	1	2	3	4	5
1.4	The project team fully understands the customization Process with the company policy and procedure	1	2	3	4	5
1.5	Coordination and Cooperation between project teamof each division.	1	2	3	4	5
1.6	The system is ease for cross-functional integration	1	2	3	4	5
1.7	The company apply and utilize all feature of ERP system	1	2	3	4	5

2. Items about customization of the system in line with companies activities.

Please read each statement carefully and show the extent of your agreement on the statements by **circling** the numbers in the column using the following rating scale (Likert Scale).

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

Ser. No	**STATEMENT**	Scale				
2.1	Is there the correct assignment of the right person to give an information for the customization from each division	1	2	3	4	5
2.2	The system is fully customized in line with the companies policy and procedure	1	2	3	4	5
3.3	Country's policies and Procedures are considered during integration	1	2	3	4	5
4.4	The company's business requirement is fully considered and integrated	1	2	3	4	5
5.5	Additional features obtained from the system beyond the pre defined requirements	1	2	3	4	5

3. The level of capacity building done on the system

Please read each statement carefully and show the extent of your agreement on the statements by **Circling**the numbers in the column using the following rating scale (Likert Scale).

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

Ser. No.	**STATEMENT**	Scale				
3.1	There is adequate training material on ERP modules in my organization	1	2	3	4	5
3.2	There is continuous training on new technologies among staff	1	2	3	4	5
3.3	The training given on the system was adequate and useful to your functional module	1	2	3	4	5
3.4	Further enhancement training is required on the system	1	2	3	4	5
3.5	There was a gap between the imparted training and Ethio telecom business requirements	1	2	3	4	5
3.6	The support exerted by integrators make the users familiar with the system	1	2	3	4	5
3.7	Ethio telecom super users are trained in a way that can fullyreplace the integrators support activity	1	2	3	4	5
3.8	The level of dependency on integrates are still high	1	2	3	4	5
3.9	The functional and technical support of successful in relation to knowledge transfer	1	2	3	4	5

4. It's about the management committment and support for smooth implementation of erp system

Please read each statement carefully and show the extent of your agreement on the statements by **circling** the numbers in the column using the following rating scale (Likert Scale).

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

Ser. No	**STATEMENT**	Scale				
4.1	Adoption and full implementation of ERP system supported by the management in line with the Organization mission and vision	1	2	3	4	5
4.2	The management consider ERP implementation is part of our Organization long term strategy	1	2	3	4	5
4.3.	Work Culture that favors collaboration is important to ERP implementation.	1	2	3	4	5

5. It's about the change management factor that have an impact on the implementation of ERP system?

Please read each statement carefully and show the extent of your agreement on the statements by **circling** the numbers in the column using the following rating scale (Likert Scale).

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

Ser. No	**STATEMENT**	Scale				
5.1	Managment approch to change was successful in managing the transition to ERP	1	2	3	4	5
5.2	Recognizing employee for contribution to change Initiative	1	2	3	4	5
5.3	Management asked employee what should change more than they told employees what will	1	2	3	4	5
5.4	Adequate resource given for change	1	2	3	4	5

6. Items about success of ERP implementation

Please read each statement carefully and show the extent of your agreement on the statements by **circling** the numbers in the column using the following rating scale (Likert Scale).

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

Ser. No	**STATEMENT**	Scale				
6.1	Decreased the financial close cycle	1	2	3	4	5
6.2	Improved decision making	1	2	3	4	5
6.3	Improved on time delivery	1	2	3	4	5
6.4	It reduced time for pay slip generation	1	2	3	4	5
6.5	Better Coordination and cooperation between functional departments.	1	2	3	4	5

If there is any other issue/ problem that you observed in relation to ERP implementation Please write down here;

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