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Implementation Challenges of ERP Project a Case of Commercial Bank  
of Ethiopia

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Management

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## Declaration

I, Tsedale Akale, hereby declare that this thesis entitled “*Implementation Challenges of enterprise resource planning project a case of commercial bank of Ethiopia*” submitted by me for the award of the degree of master of project management (MAPM), Addis Ababa University, at Addis Ababa, Ethiopia, is my original work and it has never been presented in any university. All sources and materials used for this thesis have been duly acknowledged.

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### Advisor's approval

This thesis has been submitted for examination with my approval as a university advisor.

Mengistu Bogale (PhD) \_\_\_\_\_  
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# Certification

Addis Ababa University

School of Graduate Studies

This is to certify that the thesis entitled, “*Implementation Challenges of enterprise resource planning project a case of commercial bank of Ethiopia*” was carried out by Tsedale Akale H/Giorgis under the supervision of Mengistu Bogale (PhD), submitted in partial fulfillment of the requirements for the Degree of Master of Project Management complies with the regulations of the university and meets the accepted standards with respect to originality and quality.

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Chair of Department or Graduate Program Coordinator

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## **Abstract**

*The objective of this study is to identify challenges facing the implementation of enterprise resource planning at commercial bank of Ethiopia. As result, the researcher has identifying the implementation challenges by selecting organizational, technological and individual variables and other related concepts. To address this study, descriptive research method was employed and both qualitative and quantitative approaches were used. Accordingly questionnaires, interview and document analysis were used as data collection instrument. The data obtained through questionnaire has been analyzed quantitatively using descriptive statistics: frequency, percentage, mean and standard deviation through SPSS version 21.00 software. Moreover, the data obtained using interviews has been analyzed qualitatively. Total population used to collect data was manager, team leaders and team members of the project which is a total of 150. The sampling design that was employed for this study was purposive sampling. The findings of the research revealed that major challenges facing the implementation of ERP were lack of formal communication with end users, problems of quality training facility and coordination, poor conceptual knowledge of consultant, poor technological infrastructure, lack of user involvement and addressing adequate training, problems of standardization, problems of integration among modules, data inaccuracy, lack of time management problem in users adaptability and lack of physical equipment. Hence, the researcher has recommended that the company should strengthen providing training to the project team and users in order to increase their knowledge and expertise, adopt effective channels of communication with end users, regarding integration, the bank needs to have a holistic approach, business application, technology and people perspective, and not just a focus on only implementing the particular application and can also use this study as post project lessons assessment especially in some areas that are not part of the system.*

**Keyword:** *ERP, organizational challenge, technological challenge and individual challenge*

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## **List of Acronyms and Abbreviation**

CBE-Commercial bank of Ethiopia

CORE- Centralized Online Real-Time Electronic

EDW- Enterprise Data Warehouse

ERP – Enterprise resource planning

GL- General Ledger

HR- Human resource

ICT- Information Commutation Technology

IS- information system

IT- Information technology

MTO- Money transfer agent

NBE- National bank of Ethiopia

PMO- Project management office

SCM- Supply Chain Management

SPSS- Statistical Package for Social Scientists

SWIFT- Society Worldwide Inter finance Telecommunication

T24- Temoneos 24

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the study

A Project is a temporary endeavor undertaken to create a unique product or service (PMBK). It is a sequence of unique, complex, and connected activities that have one goal or purpose and that must be completed by a specific time, within budget, and according to specification. The execution/implementation phase is the longest phase of the project in which the deliverables are physically built and presented to the customer for acceptance. To ensure that the customer's requirements are met, the project manager monitors and controls the production of each deliverable by executing a suite of management processes (Westland, 2006). The necessity of integration of IS projects in business processes and structures of today's organizations of any size has become an indispensable reality. This is mainly due to phenomena such as diversification of commerce, globalization and rapid rate of technological development.

In today's competitive environment, companies need to be reformed to get competitive advantages. The fastest and most effective way to achieve this goal is to introduce a new information system (IS) to carry out the reform. One of the systems is enterprise resources planning (ERP), which ensures all operational systems of the company are fully integrated (Maguire et al 2010). An enterprise resource planning (ERP) system is a packaged software system that enables a company to manage the efficient and effective use of resources (inventory, materials, human resources, sales, marketing, finance, customer information, etc.) by providing a total, integrated solution for its information processing needs (Koch, 2006).

By providing real-time access to operational and financial data, ERP system allows companies to streamline their management structure and create more flexible, more democratic and flatter organizations (Davenport, 1998). The core idea of implementing an ERP solution is to get tangible business benefits that would improve the performance of the organization and achieve certain business objectives. This includes inventory reduction, less time to market, reduce manufacturing and order processing cycle times, etc. (Bishnoi, 2011).

Organizations are adopting Enterprise Resource Planning systems to meet the existing challenges of information era and for competitive advantages. When considering the decision to

invest in an ERP system, a business case must be developed to provide an understanding of ERP, and to formally assess the benefits that the company as an individual entity apart from its competitors can expect to achieve. The analysis must consider not only the obvious cost/benefit analysis but also the non-financial factors (Swaminathan, 2011).

ERP system acquisition and implementation generally enhance productivity and working quality, since the system offers standardization and simplification in multiple, complicated operational procedures across the company (Nah et al., 2001). As technical knowledge is required, technological, 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.

In spite of ERP's significant growth and its benefits, there are a number of challenges that companies may encounter when implementing ERP. Abdellatif(2014) identified challenges and risks involved when implementing ERP in developing countries like poor organizational infrastructure, resistance by employees to use system, low organizational IT maturity, high costs involved in ERP implementation and inadequate internal communication between management and end user. Other challenges reported by Xue et al. (2005) which are likely to be applicable to developing countries include: lack of end- user preparedness, resistance to change, lack of user education and training, high turnover of key personnel, lack of communication and support documentation, the layer of consultants in addition to pure technological problems such as software bugs and configuration difficulties.

Implementation of ERP systems exposes organizations to numerous socio-technical challenges encompassing people, organization and technology, which need to be confronted in order to circumvent implementation failures (Bingi, Sharma, & Godla, 1999). Notwithstanding the universal acceptance of ERP systems, the implementation challenges faced by organizations during the implementation lifecycle remain a growing concern amongst scholars and practitioners (Momoh et al., 2010). Organizations need to be better prepared to deal with the different challenges which they may face during their ERP implementation process, hence an inherent need to understand the challenges an ERP implementation process entails (Sammon & Adam, 2010). As, Conteh (2015), states that Implementing ERP system is a highly complex job so proper evaluations on the connectivity, integration, data transfer, customization, business

processes changes, security by design, availability of skilled staff and consultants with core and third party application knowledge must be done before finalizing the purchase of ERP system which would require millions of dollars of investment.

Since ERP is a newly deployed system in the CBE and its challenge is not sufficiently studied, the researcher is motivated to conduct an in-depth investigation concerning the challenges to implement the system. The objective of this paper is to identify the critical challenges facing the implementation of ERP system. In order to conduct this research a review of the literature on the subject was conducted by focusing on implementation challenges of ERP projects.

### **1.1.1 Background of the organization**

Modern banking was introduced to Ethiopia in the early 20th century, during the regime of Emperor Minilk II. It was begun in Ethiopia in 1905 when the bank of Abyssinia was first established in Addis Ababa under a 50-year franchise agreement with the British owned National Bank of Egypt. The agreement made between emperor Minilk II and the representative of the National Bank of Egypt Mr. D. Mae Gilliveray. After Haile Selassie came to power. The Bank of Ethiopia, which was a purely Ethiopian institution or the first indigenous bank in Africa was established by an official decree on August 29, 1931 with a required capital of pounds sterling 750,000. In addition, since it was the first Ethiopian bank it had the interests of Ethiopians at heart. But it operated until 1935 and ceased to function during the fascist invasion and it was closed by Italians in 1936. During the Italian occupation from 1936-1941, banks were established in the main towns of Ethiopia. After liberation of Italian occupation, Barclays' Bank in 1941 to 1942 was established as foreign banks in the country. On August 1942, a charter was granted to the state Bank and was published on 30th November 1943. In 1963, the National Bank of Ethiopia and Commercial Bank of Ethiopia were established. The National Bank of Ethiopia was proclaimed in 1963 and began operation in January 1964. The Bank was reestablished in 1976. Commercial Bank of Ethiopia was incorporated as a share company on December 16, 1963 which of the former state Bank of Ethiopia.

Then, as per the proclamation No. 184 of August 2, 1980, the Addis Bank and the former Commercial Bank of Ethiopia S.C were merged to form the sole commercial Bank in the

country, the present day Commercial Bank of Ethiopia. Currently Commercial Bank of Ethiopia (CBE) is 100% state owned financial organization and the leading commercial Bank in Ethiopia.

In its economical contribution the bank is the greatest source of finance to the country. It is a Pioneer to work with Western Union Money Transfer Services in Ethiopia. And now a days CBE is working with more than 19 worldwide known Transfer agent /MTO. It has strong correspondent relationship with more than 52 renowned foreign banks and a SWIFT bilateral arrangement with more than 718 financial institutions. It has about birr 495.4 billion in assets, 43 billion capital & contingency, 14.6 billion profit, 384.6 billion deposit, holding 65.4% of market share in deposits, 16.6 million customers. The bank currently (June 2017) has about 33,706 employees with different qualification. 1,586 ATM, 6,985 POS machines and 1,235 branches through positioned in a main cities and regional towns. Currently, various services have been giving as per NBE proclamation 592/2008.

The Vision of CBE is formulated as “To become a world-class commercial bank by the year 2025” & its Mission has stated as “We are committed to best realize stakeholders' values through enhanced financial intermediation globally and supporting national development priorities, by deploying highly motivated, skilled and disciplined employees as well as state-of-the-art technology. We strongly believe that winning the public confidence is the basis of our success.” Generally, the Banking industry is growing relatively at a faster rate in Ethiopia than ever before. The type of services being provided has also improved and supported by modern technologies. This is due to the fact that number of banks has increased significantly and the competition among other banks becomes fierce (Rashid, et al, 2002).

CBE is the leading local bank in Ethiopia which is currently purchasing and implementing the new ERP called Oracle to support its strategic goal, following the standard functionality of the system to the maximum possible extent. The project has been done by one of Tata technology group of India consultant called Tech Mahindra Business group and the sponsor of CBE which is the owner with proponent sub process called PMO/project management office. “Automation of the Bank’s Support Processes” is focus area of the project. The period started from August 11, 2015 and it took 24 months while the plan was 1 year and 2 months. The Cost incurred for implementation is fixed which is 6 Million dollars for both software license & implementation. The bank has paid 2.6 million dollars for the purchase and licensing of Oracle ERP from Oracle

whereas the remaining 3.4 million paid for implementation. The system is integrated with the core (Centralized online real-time Electronic) banking system of the bank, by which CBE's transaction, payments, settlements and taxes are automatically monitored (CBE ERP implementation Charter, 2015) The project is strongly aligned with banks current vision which is to become world class bank in 2025.

## **1.2 Statement of the problem**

In today's competitive business environment, companies try to provide customers with goods and services faster and less expensively than their competition. How do they do that? Often, the key is an efficient, integrated information system (Babaei et al, 2015). According to Deloitte (1998), an ERP system is a packaged business software system that allows a company to: automate and integrate the majority of its business processes, share common data and practices across the entire enterprise, and produce and access information in a real-time environment.

Despite its worthwhile benefits, Abdelghaffar(2010), claim adopting ERP in developing countries is faced by several obstacles compared with developed countries. The challenges faced by developing countries vary on organizational level and cultural factors and lack of knowledge of ERP systems, network failures and many other connection problems could happen over the service, customization and integration limitations, risks that is complying with data, other difficulties faced by ERP providers ,loss of IT competencies & loss of technical knowledge I.e. when implementing ERP systems the IT employee may lose the technical understanding of the service over time, functionality limitations which is with the time passing traditional.

As Conteh (2015), states that implementing an ERP system is extremely challenging because it requires redesign of business processes, change of perception in how people approach their jobs, and integration of many types of information systems. The other challenge is people element and training aspect of an ERP implementation has historically received the least amount of attention. The paradox of this is that when this factor is ignored or downplayed, primarily because it does not have the largest quantifiable benefit, expenses are greatly increased in the long run (Swaminathan, 2011). By treating resource training with little regard and financial support, it is not hard to realize the reality of delay, confusion and financial 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.

Regarding researches on ERP system implementation in Ethiopian context, Abiot and Jorge (2012) tried to assess Ms-Dynamics ERP implementation in Mesfin Industrial Engineering, Sintayehu (2014) reviewed success factors for implementation of Enterprise Resource Planning system at Ethiopian Airlines, Derese (2013) has conducted a study on Oracle ERP system at Ethio-Telecom, Kibework (2015) has conducted research on the challenges and current status of ERP implementation at Mughar and Derba Cement industries. Commercial bank of Ethiopia is the first bank in Ethiopia which has currently implemented “ORACLE” application of ERP system project. When implementing the project, there were practical challenges that are reported on the final report of the project data cleansing and readiness, problems in user’ adaptability, system performance, communication, consultant knowledge, user involvement and training, internal staff expertise, integration with other modules and problems of standardization.

Various organizations have different working practices that depend on their culture and nature of business (Kibebework, 2015). The organizational culture of banking industries differs from the culture of other organizations. Even though, there have been numerous studies about the challenges and critical success factors for ERP implementation in the other sector, ERP has been studied to a few extents, from the perspective of provision of banking service. Thus, the study will bridge the gap to find out challenges facing the implementation of ERP in commercial bank of Ethiopia.

### **Research questions**

1. What are the organizational related challenges in the implementation of CBE enterprise resource planning?
2. What are the technological related challenges in the implementation of CBE enterprise resource planning?
3. What are the individual related challenges in the implementation of CBE enterprise resource planning?

## **1.3 Objective of the study**

### **1.3.1 General objective**

The main purpose of this study was to investigate challenges facing the implementation of enterprise resource planning in commercial bank of Ethiopia.

### **1.3.2 Specific objective**

The specific objectives of this study were:

1. To assess the organizational related challenges in the implementation of enterprise resource planning of CBE
2. To assess the technological related challenges in the implementation of enterprise resource planning of CBE.
3. To assess the individual related challenges in the implementation of enterprise resource planning of CBE.

## **1.4 Significant of the study**

The study has variety of importance for different bodies concerned. Help the bank to look into main areas of problems and document as a lessons learned for similar projects or for aspects similar to this project. It provides basic information on the key challenges or gaps affecting the implementation of ERP as well as provides the possible solutions for alleviating the major challenge. The study also is used as a reference for further researches those who want further investigation in the area and explore major issues related with implementation challenges as a base and make it available for academic reference. Finally, it has contributions for Ethiopian universities education system as input to revise their project management courses curriculum and incorporate ERP related sources and materials.

## **1.5 Scope of the study**

The scope of the study has been delimited to investigate the challenges facing ERP system implementation by considering ORACLE ERP project in Commercial bank of Ethiopia. The focus of the study has been applied to all five ERP models which are fully implemented, and

being used at CBE namely human resource management, supply chain management, business intelligence, Hyperion or strategic management and finance. It covers all the concerned bodies of ERP project manager, team leaders and team members as appropriate in the project area.

## **1.6 Limitation of the study**

To conduct the study, the researcher faced a quite limitation so as to finalize the paper such as getting inadequate qualitative and quantitative collection of data which is due to the project team members are virtual they were distributed in key facets of the ERP implementation areas, respondents do not want to give information, they will not find the subject to be of interest and biased or dishonest in their answer, time constraint of some interviewees and survey respondents due to office work load.

## **1.7 Organization of the paper**

The study is organized in to five chapters; the first chapter contains introduction of the study which consists of background of the study, statement of the problem, research questions, and objective of the study, scope of the study and organization of the paper. The next chapter which is chapter two 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 in chapter three the research methodology and design will be detailed. Then, chapter four presents all the collected data in a clear manner and the analysis accordingly. And finally, the last chapter is about is the conclusion and recommendation, which will have the summary, conclusion, and recommendation.

## **CHAPTER TWO: LETARATURE REVIEW**

### **2.1 Introduction**

This chapter reviews literature published on Enterprise Resource planning (ERP) systems relevant to the focus of this research. The chapter is organized in the following manner, firstly will look at the definition of ERP, implementation challenges of ERP, organizational challenges of ERP, technological challenges of ERP, individual challenges of ERP and Finally the conceptual framework that guided this study is presented.

### **2.2 Enterprise Resource Planning (ERP)**

Davenport (1998) defines an ERP system as a packaged software product that can be bought 'off-the-shelf' by an organization in order to integrate and share its information and related business processes within and across functional areas". His definition emphasizes the Integration, laid by ERP, between various organizational networks, in particular functional divisions within organizations like finance, marketing, procurement, inventory, sales and distribution, human resources planning and payroll while downplaying the implicit side of the ERP systems, for example business processes embedded in the ERP. Enterprise Resource Planning (ERP) systems include a set of software products which are mostly targeted to serve a large variety of enterprises. These systems support day to day operations, decision making and automation, streamlining and improvement of processes in organizations (Ramburn and Seymour, 2014).

ERP systems work essentially at integrating inventory data with financial, sales, and human resources data, allowing organizations to price their products, produce financial statements, and manage effectively their resources of people, materials, and money (Markus et al., 2000). The basic architecture of an ERP system builds upon one database, one application, and a unified interface across the entire enterprise. An entire organization is therefore able to operate under one application standard where all applications serving human resources, accounting, sales, manufacturing, distribution, and supply-chain management aspects are firmly integrated (Al-Mashari et al.2003).

An ERP system gives instructions at the workplace about how to organize activities vis-µ-a-vis co-workers, management and other elements in the business cycle. It may be perceived to

operate in a similar to self-evident way as roads in the traffic system do, guiding drivers towards their destinations. Unlike custom-built software that must be programmed in traditional ways to meet local needs, ERP software is 'generic', targeting multiple industries, and should be configured to predetermined business practices before it can be used. Therefore, a company that implements ERP must, for the most part, accept the vendor's assumptions about the company and change the existing processes and procedures to conform to them.

ERP systems are adopted by many companies to gain competitive advantage. Considerable benefits of ERP include the minimum operating & maintenance cost, enhanced customer services, improved production schedule etc (Abbas, 2015). According to Deloitte (1998) an ERP system is a package business software system that allows a company to automate and integrate the majority of its business processes, share common data and practices across the entire enterprise, and produce and access information in a real-time environment.

An ERP system is an integrated software package composed of a set of typical functional modules such as Production, Sales, Human Resources, Finance, Logistics etc. developed and integrated by the vendor, which can be adapted to the specific needs of each customer. It attempts to integrate all departments and functions across a company onto a single Database Management system that can serve information needs of all departments (Bishnoi, 2011). ERP systems can be described as configurable, standard application software which includes integrated business modules for the core processes and functions of an enterprise, that seek to present a holistic view of the business from single information and IT infrastructure (Klaus et al,2000).

An Enterprise resource planning is full-fledged software that is used to in different organization regardless of the size of the business. Hence this system can be applied in small, medium and large scale business organizations for a better management of the operational activities. Such software can deliver consistent data across all business functions in real time. Real time refers to data and processes that are always current.

Al-Mashari, and Umble , (2003) identify the following potential benefits of ERP system implementation: improved coordination across functional departments; increased efficiency in doing business; reduced operating costs (lower inventory control cost, lower production costs,

lower marketing costs, lower help desk support costs); facilitation of day-to-day management; rapid access to information for decision making and managerial control; and support of strategic planning (through the planning of available resources).

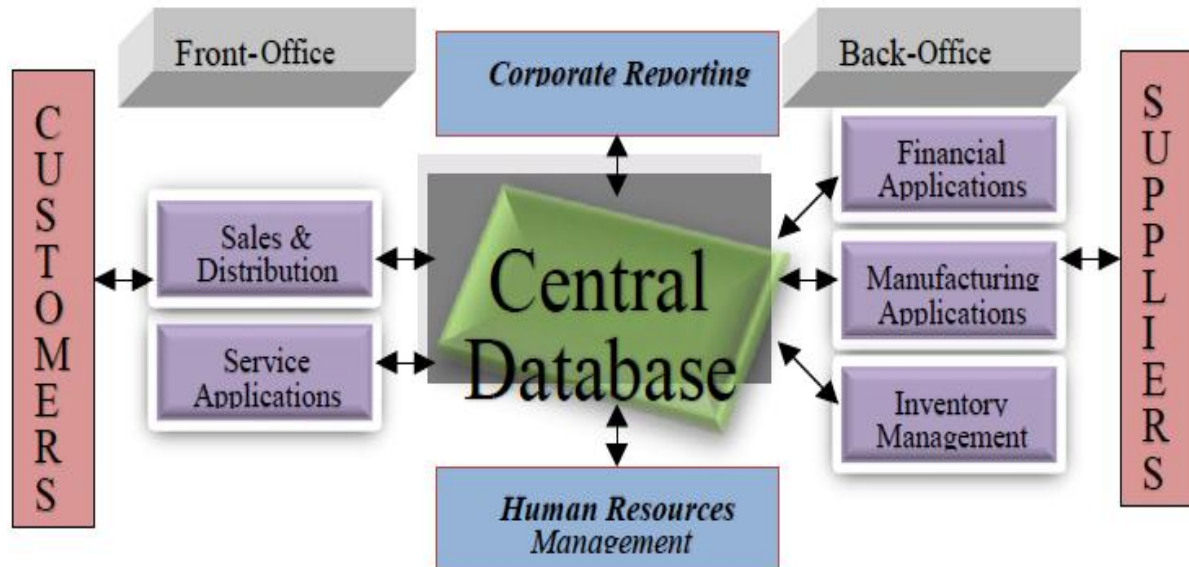


Figure 2.1. ERP systems concept. Source (Davenport 1998)

### 2.3 Implementation of ERP

ERP implementation is a complex and dynamic process, one that involves a mix of technological and organizational interactions. According to Al-Mashari & Al-Mudimigh (2003) implementing ERP systems in many instances because dramatic changes that need to be carefully administered to reap the advantages of an ERP solution. Tougher competition in the marketplace is generating the need to better optimize resources, improve profitability and keep customers satisfied. Companies are increasingly implementing Enterprise Resource Planning (ERP) software solutions to improve operations and provide faster customer response. Choosing an ERP solution that meets your *specific* business requirements will enable you to have a smoother implementation.

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. Esteves, (2002) identify the following ERP implementation phases; 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, and 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, 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.

## **2.4. Implementation challenges of enterprise resource planning**

One of the plausible explanations of the high ERP implementation failure rates relates to the fact that many organizations lack the necessary understanding to undertake an ERP implementation and, consequently, are likely to confront a number of organizational, cultural, technological and political challenges throughout the implementation cycle (Momoh et al.,).

Implementation challenges are described as the primary problems organizations encounter during their ERP implementations (Momoh et al., 2010). Primary problems can include existing organizational challenges. Subsequently, in order to better understand the ERP implementation process, these challenges should, first and foremost, be given due consideration and be addressed, promptly and effectively, to ensure a successful implementation outcome (Bingi et al., 1999).

In effect, Kumar et al. (2003) state that once the ERP implementation challenges are identified, the primary aim for organizations should be to address these challenges in order to increase the likelihood of achieving a successful ERP implementation outcome. Therefore, organizations are required to understand the pertinent implementation challenges they face and ought to find adequate means of addressing the challenges in order to ensure a smooth roll-out and a successful project implementation (Bingi et al., 1999).

Despite ERP increased growth from the late 1990s to-date, there are several challenges that businesses and organizations encounter when implementing ERP. Research indicates that a large number of ERP implementations have failed to achieve the desired organization target. Most of these failures are not caused by the ERP software but the complexity and massive changes caused by ERP in an organization (Maditinos *et al.*, 2011). According to Helo *et al.* (2008), the major impediments to successful ERP implementations are not technologically related issues such as compatibility, technological complexity, and standardization, but most are organization and human related issues including as resistance to change, organizational culture and business processes.

Huang *et al.* (2004) presented the risks that cause ERP implementation failures like: lack of management commitment, insufficient training with users, ineffective communication with users, inadequate support from the executive, lack of effective project management methodology,

conflicts between department users, attempt to build bridges to legacy application, composition of the implementing project team members, failure to redesign business processes, and misunderstanding of change requirements.

Moreover, O'Leary D. E. (2000); also explained that training is expensive and 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 critical requirement in ERP implementation and this has led to creation of an entire industry providing ERP training. According to Gregor (2006), the proposed taxonomy classification of ERP implementation challenges are likely to face during the different stages of their implementation lifecycle.

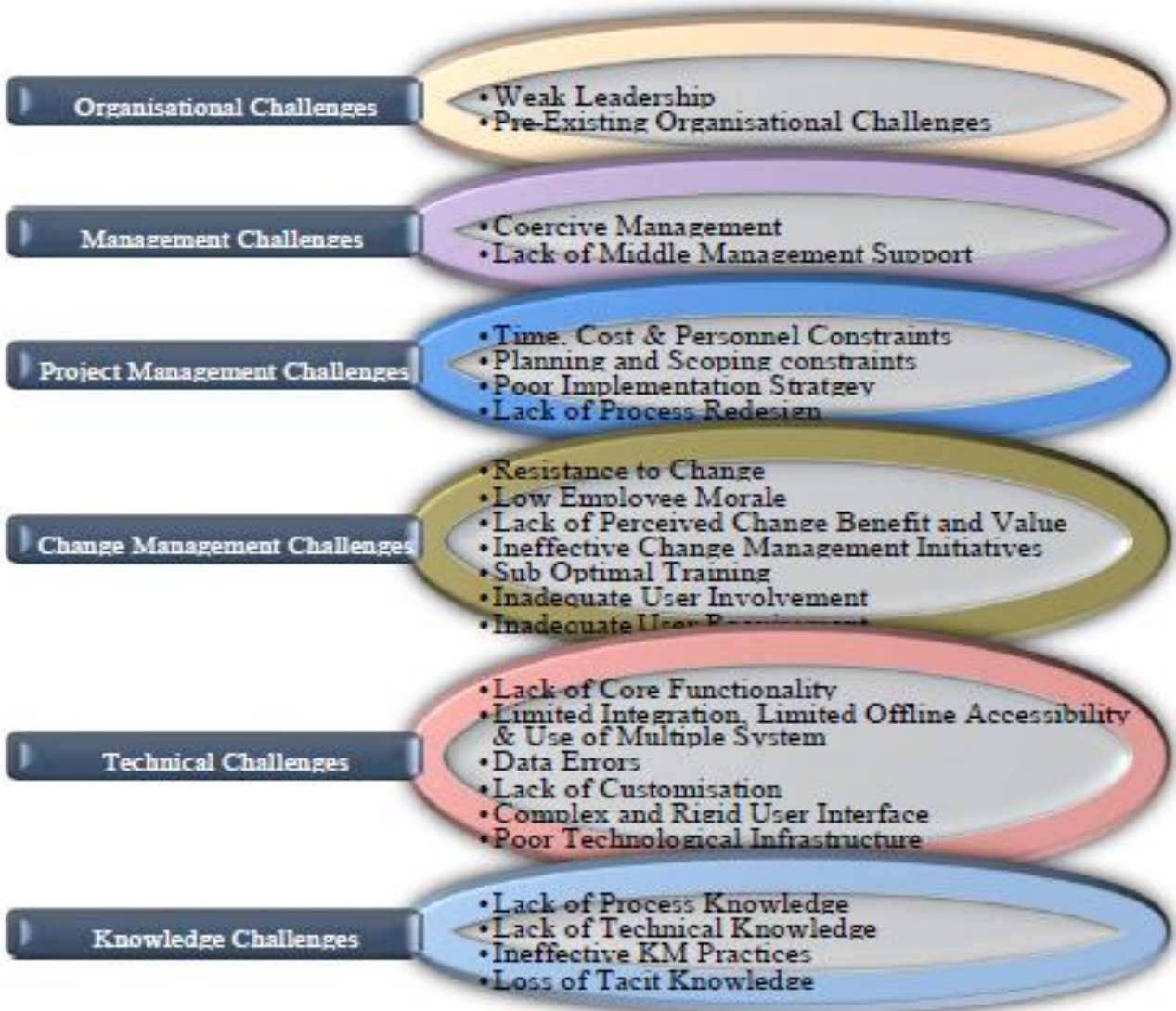


Figure 2.2 Taxonomy of ERP implementation challenges. Source Gregor (2006)

### 2.4.1 Organizational challenges of ERP implementation

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. According to Elmonem et al. (2011), the process of implementing ERP systems may face organizational challenges like top management involvement in and poor cross-functional communication. Includes; organizational knowledge, organizational political support, change and risk analysis,

cultural factors (local, national), lack of communication, lack of top Management Support, lack of user Involvement and Incentives and project management.

One of the most significant challenges faced by organizations is ensuring top management's support and commitment throughout the implementation cycle. While top management support is always rated as one of the most crucial factors contributing to a positive ERP implementation outcome, some studies, however, identify to lack of top management support and unrealistic management expectations as critical failure factors (Soja, 2011; Wong et al., 2005). ERP is highly interlinked business processes software that span across many organizational boundaries. Their implementations not only affect the different interest group but also many stakeholders like senior executives from different departments. In this situation when there is a political conflict between departments, the top management should play a role to resolve conflict between different stakeholders and provide clarity to any doubts (Ngai, 2008). To implement an ERP system smoothly, an organization requires necessary resources like peoples, funds and equipment. Top management support in ERP implementation has two main aspects, providing leadership and providing the necessary resources to continue project (Jafari, 2006). Even through the ERP systems can deliver great rewards, the risks of implementing them are equally great. Top managers need to be careful that their enthusiasm about the benefits does not blind them, and not let the system undermine the company's strategy.

Lack of adequate formal communication and communication breakdowns are other implementation challenges of ERP faced by organizations. According to Soja, (2011) organizations implementing ERP systems might experience numerous communication challenges, particularly between the project team and the rest of the employees within the organization. As, Welti, (1999), states that communication is one of most challenging and difficult tasks in any ERP project. The communication plan has to detail several areas including the rationale for the ERP implementation, details of the business process management change, demonstration of applicable software modules, briefings of change management strategies and tactics and establishment of contact points (Bancroft et al., 1998). Communication has to cover the scope, objectives, and tasks of an ERP implementation project (Sumner, 1999). In a way to avoid the various communication failures, an open information policy has to be maintained for

the project. For example, a good e-mailer system can help promote this policy, but serious problems need to be discussed by telephone or, preferably, face to face (Welti, 1999).

A challenge facing the organization implementing ERP systems is hiring competent consultants. There has been a shortage for competent consultants, so finding the right people and keep them through the implementation is a challenge. Finding them is a challenge, but to manage them is even more challenging (Bingi, 1999). The ERP implementation is an ongoing process and it creates a demand for establishment of an organizational unit – a competence center – either virtual or not, to handle the ongoing need for support, fixing of new recognized problems, upgrading to new versions of the software, etc. According to Markus (1999), the competence center (CC) is expected to give equal priority to serve critical organizational needs in addition to technical support: user education, training, support and ongoing business process improvement. A critical issue facing the companies implementing ERP systems is to choose internal employees with the right skill set to be responsible for the implementation (Sharma, 1999). The companies must be willing to dedicate some of their best employees. These employees should not just have knowledge about the internal processes and the best practices in the industry but also be able to understand the overall needs of the organization and should play an important role in guiding the implementation.

#### **2.4.2 Technological challenges of ERP implementation**

According to Themistocles's et al. (2001), most companies face technical problems during installation, implementation or after implementation period. Integration with existing systems, customization and security are the most serious problems for the companies. To deal with these problems, companies need support from suppliers both in terms of information technology expertise and domain knowledge.

Cost of technology is one of the critical challenges for implementing an ERP system. Even though the price of prewritten software is cheap compared with in-house development, Monk & Wagner (2006) observes that the total cost of implementation could be three to five times the purchase price of the software. This is because ERP is a semi-finished product which needs to be configured and tailored to organizational needs by consultants. The implementation cost is even higher when an organization decides to undertake major customization. The cost of hiring

consultants and all that goes with it can consume up to 30 percent of the overall budget for the implementation. Therefore, arguably, ERP systems are generally expensive to purchase and implement in organizations. The move to ERP is a project of breath-taking scope and the prices quoted are enough to make any financial manager twitchy. In addition to budgeting for software costs, financial executives should plan to write cheques to cover consulting, process rework, integration testing and a long laundry list of other expenses before the benefits of ERP start to manifest. Koch *et al.* (1999) state that ERP projects have a reputation of draining corporate resources and funds given the massive resources required.

System complexity is another challenge of ERP implementation. ERP systems are the most complex and comprehensive of business information systems. Most large organizations still require use of large scale, main frame legacy systems. Managers find it very challenging to manage the technological complexity of different platforms and to harness the technological power of new enterprise technology. While emphasizing the complexity of ERP systems, Bingi *et al.* (2002) noted that: An ERP package is so complex and vast that it takes several years and millions of dollars. ERP implementation is so complex that it has proven to be too difficult for many organizations. A study by Rogers (1983) shows that organizations that perceive ERP to be a complex business solution are likely to diffuse it slowly and in limited capacity, and may end up not realizing its full benefit.

In ERP implementation, existing legacy systems have to be carefully defined and evaluated to determine the nature and scale of problems that an organization may encounter during implementation (Holland, 1999). If organizational legacy systems are very complex (with multiple platforms and a variety of procedures to manage processes), the amount of technical and organizational changes required is likely to be high, and vice versa. Indeed, the problem of legacy systems centers on the fact that in most companies, data are not kept in a single repository, but rather spread across dozens or even hundreds of separate computer systems, each housed in an individual function, business unit, region, factory, or office. Each of these legacy systems may provide valuable support for a particular business task. However, when they are considered in combination, they represent one of the heaviest hindrances on business productivity and performance (Davenport, 1998). It is important, therefore, that an organization approaches the transition of legacy system carefully and with a comprehensive plan.

One of the complexities associated with ERP implementation is related to the cross-module integration nature of the system (Soh et al., 2000). According to Berente et al. (2009), ERP creates many interconnections among various business processes and data flows to ensure that any other unit of the organization can obtain information in one part of the business. Information that was previously maintained by different departments must be integrated and made available to the company as a whole. Though there are middleware technologies that can be used to integrate software applications from several vendors to the ERP backbone, they are not available for all ERP systems (Bingi et al., 1999). Moreover, middleware vendors often tend to focus on the technical aspects of application inter-operability rather than linking business processes together, and, in many times, organizations have to develop their own interfaces for commercial software applications. Even maintaining the integration mix requires an excessive and ongoing expenditure of resources (Bingi et al., 1999). When it comes to maintaining the system, IS personnel are faced with the challenge of managing and keeping it integrated with other organizational systems.

Configuring an ERP system is largely a matter of making compromises; of balancing the way the organization want to work with the way the system lets them work (Davenport, 1998). When implementing an ERP system the organizations have to decide which modules they want.

Technological infrastructure is the other challenge of ERP implementation. The government often operates national communications directly, largely because the private sector is often incapable of operating such an infrastructure (ITU, 1994). Although there has been a move towards deregulation and privatization of telecommunications in many countries, the process is still slow, often being opposed by government telecommunication ministries and national security forces (Chowdary, 1992). System performance and network interruption problem is the major challenges of ERP implementation.

### **2.4.3 Individual challenges of ERP implementation**

Inadequate training has been one of the significant reasons of many ERP systems failure (Gupta, 2000). In ERP implementation projects, despite millions of dollars and hundreds of deployment hours, many projects fail because of the lack of adequate training (Kelley et al., 1999). A particular challenge in ERP implementation is to select an appropriate plan for end-user training

and education. It is however important to stress that the main goal of ERP training should be the effective understanding of the various business processes behind the ERP applications (Gupta, 2000). ERP training should address all aspects of the system, be continuous and based on knowledge transfer principles wherever consultants are involved (Davenport, 1998). Due to the complexity of the integrated ERP system, end user training is essential for a robust understanding of how the system works and how to use it. Consequently, appropriate end user education and training will maximize ERP benefits and increase user satisfaction.

Organizations are required to invest in the training and education of their employees to enhance their skills and understanding of the new business processes, functions and new responsibilities (Bingi et al., 1999), and to ensure that key knowledge is transferred from the consultants to the employees for the former to, ultimately, reside within the organization. One of the prominent training challenges is the difficulty in setting up the required training logistics, which includes selecting the right facilitators to provide end-user training, providing adequate training to the facilitators themselves, setting up training facilities with the right infrastructure and the preparation of quality training documentation (Kumar et al., 2003). Training content is usually perceived as being inadequate with lack of attention to detail, thus hampering the holistic understanding of how the ERP system functions. Moreover, the high demand for skilled ERP professionals leads to a high turnover of skilled ERP employees, resulting in the constant need to train new employees. Moreover, the evolving nature of the ERP systems results in the need for constantly updating the training materials and, consequently, the need for regularly retraining employees (Kumar et al., 2003).

Lack of skills and knowledge is other factor for ERP implementation. Identified knowledge impediments include configuration and assimilation knowledge (Robey & Ross, 2002). Assimilation knowledge gap refers to the difficulty encountered by employees to understand the ERP system while configuration knowledge gap is the lack of required expertise to configure an ERP system to match the organizational needs. Assimilation knowledge gap is an ongoing challenge experienced by organizations and the gap is amplified by employees' lack of process and technical knowledge. Knowledge transfer from consultants to the organization's employees is another widely cited knowledge challenge (Wong et al., 2005). Ineffective knowledge transfer mechanisms have been cited as negatively influence to the ERP implementation outcome. Reluctance of consultants to transfer the knowledge to employees, ineffective training and

communication, reluctance of employees to accept the knowledge and lack of employees' absorptive and retentive capacity may hinder the knowledge transfer from outside consultants to the organization (Volkoff, Elmes, & Strong, 2004).

User resistance is described as the opposition of users to perceive change related to a new IS implementation (Markus, 1983). Although ERP systems are implemented successfully from a technical perspective, eventual success cannot be guaranteed and may be inhibited by users' reluctance to use the delivered system (Kim et al., 2005). Yusuf et al. (2004) cites resistance to change as a major risk factor as the ERP implementation of Rolls-Royce progressed. The project implementation team anticipated reluctance to accept new work practices, despite improved processes and functionalities. According to Markus (1983), classified as either functional or dysfunctional, user resistance is a critical implementation challenge. Functional resistance indicates the problems inherent to the ERP solution, whereas dysfunctional resistance relates to resistant behavior of users that, ultimately, obstructs the adoption of the solution which could have been beneficial to the organization. In the latter case, resistance is regarded as destructive as it leads to organizational disruption. Regardless of whether resistance is functional or dysfunctional, it must be addressed by the organization.

Another challenge organization face refers to the decision on the extent of users' involvement during the implementation process. Barker and Frolick (2003) discuss the need for organizations to assess their workforce, select key employees and understand their desire to be involved to ensure a satisfying outcome. Ensuring the involvement of users throughout the implementation process is a crucial step towards breaking down communication barriers and removing power blockages (Barker, 2003).

Use of consultant to implement ERP application is common practice in most of the organizations. Consultants experience in specific industries, comprehensive knowledge about certain modules, and their technical and interpersonal skill are important for successful implementation (Bingi, 1999). ERP consultants play a critical role in ERP implementation. Consultants can be essential knowledge resources for ERP's hardware, software, and personnel. They also can help staff, have responsibility for project management, and audit the project. On the other hand, in order to be successful system maintenance after post-implementation, knowledge transfer from consultants is crucial for the organization.

## 2.5 Failure factors of ERP implementation

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.

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.

## **2.6 Enterprise resource planning (ERP) in Ethiopia**

ERP Systems have been successfully implemented in many enterprises in Ethiopia. After implementation, ERP Software provides tremendous benefits like quality improvements, optimum utilization of scarce resources and cost reduction in the organization. An ERP Suite plays a critical role in integrating and automating the business processes in an enterprise. ERP in Ethiopia has helped in exposing the Ethiopian enterprise to the best practices and processes adopted internationally and serve as a catalyst to enhance their productivity and efficiency as well. Increasingly Ethiopian enterprises are witnessing and realizing the tremendous benefits a versatile and powerful ERP System brings to an enterprise and the imperative need for them to start their own enterprise automation journey as well with the implementation of a suitable ERP Solution in their enterprise too.

## **2.7 ERP in Commercial Bank of Ethiopia**

CBE is trying and taking many organizational improvement systems, which facilitates its progressive functioning. Because of this, it is the first bank in Ethiopia which is currently purchasing and implementing the new enterprise resource planning called Oracle ERP. The bank has paid 2.6 million dollars for the purchase and licensing of Oracle ERP from Oracle; 22pc of the money was for the licensing of the solution. The bank will pay this amount (572,000 dollars) every year to renew the license. The system is integrated with the core banking system of the bank, by which CBE's transaction, payments, settlements and taxes are automatically monitored (CBE, 2015).

### **Project scope**

**Finance:** The finance support process has two sub-processes under it. These are Fund Management and Accounts & reconciliation. The activities under these sub-processes are partially supported by the core banking solution. Fixed asset administration is handled by in-house developed isolated system. Thus, implemented ERP system in general, and the Finance module in particular, is expected to handle a wide range of financial activities including automatic inter-branch as well as head office accounts settlement, tangible or fixed and intangible asset management, and fund management activities.

**Human Resource:** The other core support process is the Human Resource process which is also supported by isolated software called Unique which perform in a centralized way. The bank is using this system to administer records and profile of all CBE employees centrally at its head offices. The network infrastructure for this application system is limited to the Head Office building. The other wing of HR expected to be incorporated in the ERP system is the learning and development aspect of the bank.

**Supply Chain Management:** this is a procurement sub process responsible for facilitating the acquisition & distribution of fixed and non-fixed assets, stationary and other items that are useful in running the bank's day-to-day activities.

**Hyperion:** The strategy management process mainly focuses on aligning the organizational mission and vision with strategic goals and objectives of the bank. It is also concerned with the effective cascading of the scorecard/plan and budget up to the level of individuals. The requirements of three sub-processes structured under it, namely planning and strategy management, Evaluation and Monitoring, and change management, are included in this document.

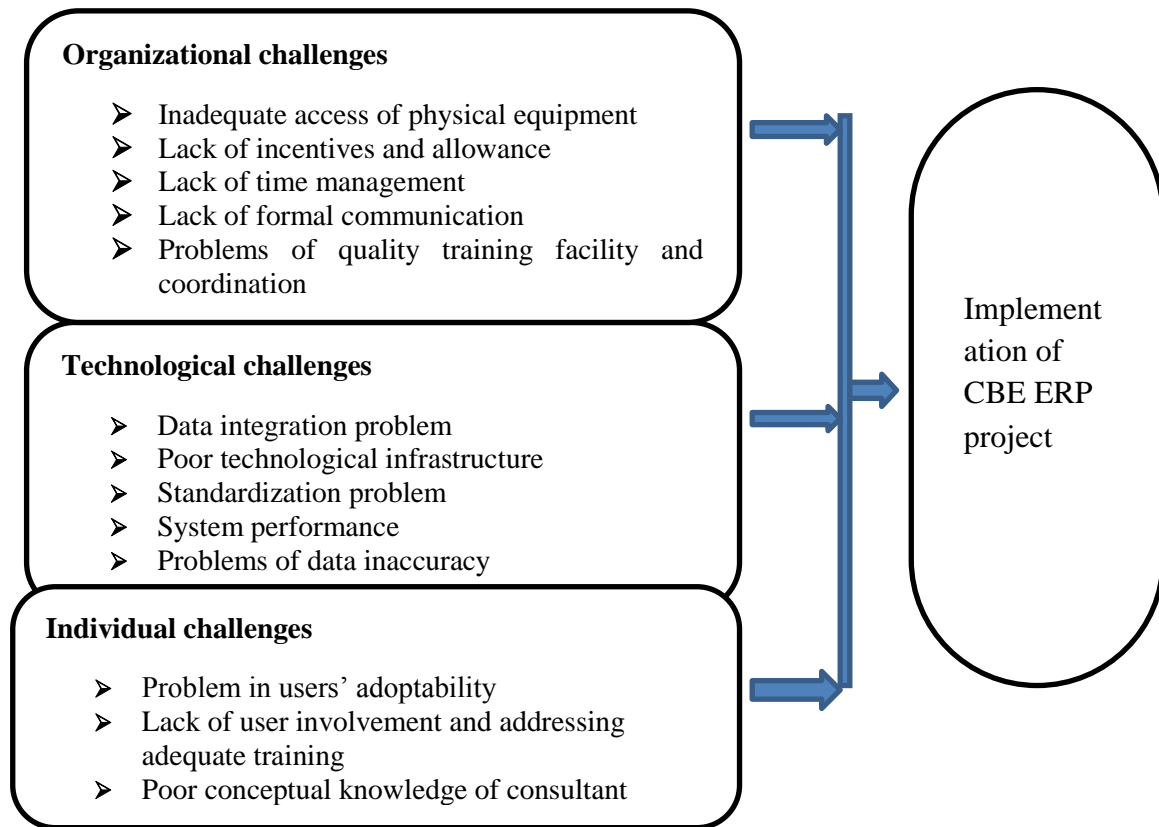
**Business Intelligence:** The other strategic functionality the bank acquired from the proposed software is Business Intelligence that enables the company to easily keep track of all the information important for the organization. Business Intelligence is an important component of banks' implementation of IT based strategies. It helps to improve products, enhance customer relationships, make better forecasts based on past trends, handle competition, manage risk, increase operational efficiency etc., on the way to a healthier bottom line.

## **2.8 Conceptual framework**

Conceptual framework is defined as an interconnected set of ideas (theories) about how a particular phenomenon functions are/ is related to its parts. It is used to make conceptual distinctions and organize ideas by using diagrams or charts and the like. The conceptual model is a conceptualization in functional form of how the independent variables affect the dependent variable which is implementation challenges of ERP system in commercial bank of Ethiopia.

Hence, the researcher tries to see the relationship between Independent variables (organizational challenge, technological challenge, individual challenges) and dependent variable (implementation challenge of ERP).

Figure 2.3. Conceptual framework



Source: Developed for the research

## **CHAPTER THREE: RESEARCH METHODOLOGY**

This chapter presents the research methodology applied for the study specifically, on the research design, target population, sampling design, source of data, data collection methods, method of data analysis and at the end some ethical issue has been explained.

### **3.1 Research design**

According to Sekaran (2013), research design is the blue print for data collection, measurement and analysis; based on the research questions of the study. The objective of the research is identifying implementation challenges of ERP at CBE so for the research which has the above mentioned objective, descriptive type of research is better. Descriptive researches are those studies which are concerned with describing the characteristics of a particular individual, or of group and it includes surveys and fact-findings enquire of different kinds (Sakaran, 2003). 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 Research approach**

In order to achieve the specific and general objectives of the study, both qualitative and quantitative (mixed) research approach is used. According to Creswell (2003) the use of both approaches is tandem so that the overall strength of the study is greater than either qualitative or quantitative research. According to Creswell (2009) qualitative research is a means for exploring and understanding the meaning of phenomenon from the view of participants. On the other hand, quantitative approach employs strategies of inquiry such as experiments and surveys, and collect data on predetermined instruments that yield numeric data that can be analyzed using statistical procedures and it is a means for testing objective theories through examining the relationship among variables. Qualitative method has been chosen as it uses ,unreconstructed logic to get at what is really real the quality, meaning, context or images of reality in what ERP system management do, not what they say they do as on questionnaires. The quantitative method helps for quantification of certain variables in the study population.

### 3.3 Target population, sampling techniques and sample size

#### 3.3.1 Targeted respondents

A population refers to the entire group of people, events, or things of interest that the researcher wishes to investigate and from which they can make inferences based on the sample statistics (Sekaran, 2013). For this study, the researcher consider manager, team leaders and team members of ERP project as appropriate in the project area as a sampling unit and considered their ERP Project experience as parameter of interest to define the study population. Thus, those team members that are experienced for two year and above will be covered as part of the study population which is 150 in number (CBE ERP project charter August 2015).

#### 3.3.2 Sampling design

Creswell (2009) define sampling technique as the process by which individuals are selected for a study. The objective of sampling is to make correct inference about the aggregate and is only justified if the selected part-the sample population is a true representative of the main population. There are two main types of sampling procedures: probability sampling and non-probability sampling. Probability sampling involves selecting elements randomly in that the selection of any one element is independent of the selection of the other elements. Unlike the case of probability sampling, in non-probability sampling the probability that an elementary unit in the population will be included in the sample is unknown. For this research, purposive sampling technique which is categorized under non probability sampling is used. According to Creswell (2009), under purposive sampling respondents are chosen based on their convenience and availability. To determine the sample size, formula of Taro Yamane (1967); was used.

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

Where,

n is the sample size

N is the population size,

e is the level of precision or sampling error = (0.05)

$$n = \frac{150}{1 + 150 (0.05)^2} = 109$$

Thus, sample size of 109 employees will be selected from the population of 150.

### **3.4 Source of data**

This study used both primary and secondary source of data. The primary data are those which are collected for the first time and thus happen to be original in character (Kothari, 2004). In this study, the primary data has been collected through interview, questionnaires and observation prepared by the researcher. Secondary data are those that are already available, and refer to data that have already been collected and analyzed by someone else (Kothari, 2004). In order to strength the result and findings of the study, the researcher examines different articles, academic journals, useful academic books and banks“ reports as secondary data.

### **3.5 Data collection techniques/ instruments**

The main data collection techniques use for this research was questionnaire and interview. The other techniques used here are observation and document review to supplement the results of questionnaire.

For primary data collection, questionnaire has taken as a preferable data-gathering tool for this research because of two reasons. It allows the researcher to collect information on facts and attitudes from a wide range of sources. Moreover, it is one of the most important tools to guide the respondent since it gives clear choices to check. Close ended types of questionnaires were designed in English language and distributed in a 5 point Likert scales to collect data from the sample respondents. Interview with one project manager also be used as a means of getting additional information.

### **3.6 Method of data analysis**

Once after the raw data was collected, both quantitative and qualitative methods of data analysis were used. Particularly with the quantitative data collected via the questionnaire, a descriptive

statistical analysis method is used. The collected close ended questions were inserted in to SPSS version 21 software in order to make a descriptive analysis of the data, which enabled to present quantitatively using frequency and percentage.

### **3.7 Ethical issues**

The study will in line with the organizations policy in relation to any intellectual property rights of the organization. Regarding privacy of the respondents, their responses are strictly confidential and only used for academic purposes. It cannot be ethical to access some confidential documents of the organization. So, the organization's code of ethics taken in to account without significantly compromising the findings of the study. Concerning references, all the materials and sources are properly acknowledged.

## CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

This chapter deals with four parts. The first part deals with the demographic characteristics of respondents secondly, organization challenges of ERP system implementation analysis third, technological challenges of ERP system implementation analysis and finally individual challenges of ERP system implementation analysis. Then the data was analyzed by using statistical instruments called descriptive statistics with the help of SPSS application version 21.

In order to make the data analysis data was collected using questionnaire and interview designed and prepared in English language. A total of 109 questionnaires were distributed and from 109 questionnaires, 104 were properly filled and usable for further analysis.

### 4.1 Descriptive statistics result

#### 4.1.1 Demographic characteristics of respondents

**Table 4.1** gender of respondents

<b>Classification</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Percent</b>
Male	82	78.8	78.8
Female	22	21.2	21.2
Total	104	100.0	100.0

Source: SPSS Survey, 2018

The respondent's gender profile indicates, as shown in the table one above, the majority of the respondents are male which accounts 78.8% of the sample respondents whereas female respondents account for 21.2% of the sample respondents. This indicates that a, the overall staffing composition of the company is highly dominated by male employees.

**Table 4.2 Age of Respondents**

Age	Frequency	Percent	Cumulative Percent
21-30	76	73.1	73.1
30-40	16	15.4	15.4
over40	12	11.5	11.5
Total	104	100.0	100.0

Source: SPSS Survey, 2018

Concerning age status, 73.1% of the employees are between the age 21 and 30, and the other 15.4% are between 30 and 40. Furthermore, 11.5 % of the employees are at the age of 40 or above. This indicates that the company is staffed with young and energetic employees. In other words, most of the employees are belonging in the productive age group.

**Table 4.3 Educational Status of respondents**

Educational Status	Frequency	Percent	Cumulative Percent
Diploma	0	0	0
BA/BSC	84	80.8	80.8
Masters & Above	20	19.2	19.2
Total	104	100.0	100.00

Source: SPSS Survey, 2018

Regarding educational level of employees of the company, 80.8% of the employees are first degree holders and the other 19.2% of the employees have specialization at a master's degree level and above. Therefore, 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.

#### **4.1.2 Organizational challenges of ERP system implementation**

A total of 7 questions on organizational challenges of ERP were asked to indicate the extent to which each respondent agrees to corresponding closed ended statements rated on a five-point

Likert type scales ranging from ‘1’ “Strongly Disagree” to ‘5’ “Strongly Agree”. Where: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

**Table 4.4. Lack of top management support and commitment**

	Frequency	Valid Percent
Strongly disagree	40	38.5
Disagree	45	43.3
Neutral	5	4.8
Agree	7	6.7
Strongly agree	7	6.7
Total	104	100.0

Source: SPSS Survey, 2018

As Table 4.4 above shows most of the respondents (81.8%) were disagree the question related with lack of top management support and commitment in the implementation of the project. On the other side, 13.4% of the respondents argued that there is lack of top management support and commitment. The remaining 4.8% of the respondents goes to those who belong to neither agree nor disagree. As indicated in table 4.11 below the mean value 2.00 and the standard deviation is 1.149. This implies that majority of the respondents disagree the statement meaning top management was highly committed and gives adequate support for the implementation of ERP project and it is not a challenge for implementing the project.

**Table 4.5 Inadequate access of physical equipment**

	Frequency	Valid Percent
Strongly disagree	6	5.8
Disagree	22	21.2
Neutral	7	6.7
Agree	30	28.8
Strongly agree	39	37.5
Total	104	100.0

Source: SPSS Survey, 2018

As shown in the above table, the researcher asked for the respondents to show their supposition in the matter of whether their banks have any physical equipment to support the project implementation. Among the respondents, 27% states that the bank offer adequate access of

physical equipment. On the other hand, 66.3% of the respondents argue that there was shortage of physical equipment to support the project implementation. The remaining 6.7% of the respondents have stated that they are neither of the two sides. As indicates in table 4.11 below the mean value is 3.7 and standard deviation is 1.32. This implies that the data points tended to be close to the mean and there was general consensus by the respondents for this specific variable under consideration. Therefore, majority of the respondents not agreed that their bank had physical hardware to bolster the implementation of the project and it is a challenge for implement the system.

**Table 4.6 Lack of incentives/allowances and reward system to Project members**

	Frequency	Valid Percent
Strongly disagree	9	8.7
Disagree	18	17.3
Neutral	11	10.6
Agree	31	29.8
Strongly agree	35	33.7
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.6 above portrayed the degree to which respondents agree to the statement saying Lack of incentives/allowance and less attention to project member. Majority of the respondents which is 63.5% agreed that the bank does not offer incentives and allowance to project members. On the other hand, 26% of the respondents states that the company give incentives and allowance. The remaining 10.6% of the respondents neither agree nor disagree on this idea. Table 4.11 below shows that the mean value is 3.6 and standard deviation is 1.34 which is close to the mean. This implies that there was general consensus by the respondents for this specific variable under consideration. Therefore, initiatives and allowance for the employee must consider for ERP system implementation. From the interview discussion, in order to compensate the cost over-run that resulted because of time slippage, the company does not give consideration incentives/allowance to project members.

**Table 4.7 Lack of time management**

	Frequency	Valid Percent
Strongly disagree	15	14.4
Disagree	12	11.5
Neutral	9	8.7
Agree	30	28.8
Strongly agree	38	36.5
Total	104	100.0

Source: SPSS Survey, 2018

With respect to the statement saying “lack of time management,” majority of respondents i.e. 65.3% of them expressed their level of agreement and out of which 28.8 % of them agreed and 36.5% of them strongly agreed to the challenge of such specific variable on ERP. On the other hand, 25.9% of the respondents disagree and 8.7% of the respondents neither of the two. Table 4.11 below indicates that the mean value is 3.6 and standard deviation is 1.44 which is close to the mean. This implies that there was a common understanding by the respondents for this specific variable under consideration. Therefore, most of the respondents asserted that time management will contribute more on the implementation of ERP project efficiently and effectively. From the interview, time taken by consultants to come back from vacation is a major challenge.

**Table 4.8.lack of formal communication with in end users**

	Frequency	Valid Percent
Strongly disagree	8	7.7
Disagree	13	12.5
Neutral	8	7.7
Agree	38	36.5
Strongly agree	37	35.6
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.8 above shows the respondents level of agreement to the statement lack of formal communication with end users. Majority of the respondents which is 72.1% agreed the statement whereas 20.2% of the respondents disagree and the remaining 7.7% of the respondents neither agree nor disagree. Table 4.11 below indicates that the standard deviation was 1.2 which implied

that the data points tended to be very close to the mean i.e. 3.8 and there was general consensus by the respondents for this specific variable under consideration. This implies that lack of communication with end users is a challenge for ERP implementation. According to the interview, even though there is a good communication between departments there is a challenge for communication between end user. They didn't immediately update, inform & mentor about its nature & feature.

**Table 4.9.Lack of effective team composition and coordination**

	Frequency	Valid Percent
Strongly disagree	43	41.3
Disagree	36	34.6
Neutral	3	2.9
Agree	14	13.5
Strongly agree	8	7.7
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.9 above shows the degree to which respondents agree to the statement saying “Lack of effective team composition and coordination”. Majority of the respondents which is 75.9% were disagree while 21.2% of the respondents were agreed the statement. The remaining 2.9% of the respondents were neither of the two.as indicated table 4.11 below, the mean value is 2.1 and standard deviation is 1.3 which implied that there was disparity between the respondents. Therefore, majority of the respondents asserted that the company has effective and coordinated team and it is not a challenge to implement ERP system.

**Table 4.10 Problems of quality training facility and coordination**

	Frequency	Valid Percent
Strongly disagree	9	8.7
Disagree	13	12.5
Neutral	9	8.7
Agree	38	36.5
Strongly agree	35	33.7
Total	104	100.0

Source: SPSS Survey, 2018

Regarding the statement above table 4.10, 70.2% of the respondents agreed that the company has a problem of quality training facility and coordination. On the other side 21.2% of the respondents disagree and the remaining 8.7% of them were neither agree nor disagree. As indicated in table 4.11 below the standard deviation was 1.2 which implied that the data points tended to be close to the mean i.e. 3.7 and there was general consensus by the respondents for this specific variable under consideration. Therefore, majority of the respondents asserted that quality training facility and coordination is challenge of ERP system implementation and the company should consider this variable.

**Table 4.11 Statistical Summary on organizational challenges of ERP system implementation**

Organizational Challenges	Mean	Standard deviation	Combined Average of mean
Lack of top management support commitment	2.0	1.14	3.23
Inadequate access of physical equipment	3.7	1.32	
Lack of incentives/allowances and reward system to Project members	3.6	1.33	
Lack of time management	3.6	1.44	
lack of formal communication with end users	3.8	1.26	
Lack of effective team composition and coordination	2.1	1.29	
Problems of quality training facility and coordination	3.7	1.28	

Source: SPSS Survey, 2018

Table 4.11 shows the consolidated statistical results on the variables under organization challenges including the number of frequencies, the mean, and standard deviation of the data points. The mean tried to tell the average where the data points fall for each specific variable while the standard deviation column showed the variability of the data points for each variable under consideration. The major organizational challenges highly stated by the respondents are Inadequate access of physical equipment, Lack of time management, lack of formal communication with in end users and Problems of quality training facility and coordination with mean value of 3.7, 3.6, 3.6, 3.8 and 3.7 respectively. On the other hand, Lack of top management

support and commitment and Lack of effective team composition and coordination with the mean value of 2.00 and 2.12 are not stated by the respondents as organizational challenges.

### 4.1.3 Technological challenges of ERP implementation

A total of 8 questions on technological challenges of ERP were asked to indicate the extent to which each respondent agrees to corresponding closed ended statements rated on a five-point Likert type scales ranging from ‘1’ “Strongly Disagree” to ‘5’ “Strongly Agree”. Where: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

**Table 4.12 Integration of different types of data was a big Problem**

	Frequency	Valid Percent
Strongly disagree	9	8.7
Disagree	15	14.4
Neutral	6	5.8
Agree	39	37.5
Strongly agree	35	33.7
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.12 above shows the respondents level of agreement to the statement Integration of different types of data was a big Problem. Majority of the respondents (71.2%) agreed that integration of data was a big problem where as 23.1% the respondents were disagreeing and the remaining 5.8% of the respondents are neither of the two sides. Table 4.20 below indicates that the mean value of 3.7 and standard deviation is 1.3 which is close to the mean and it implied that there was general consensus by the respondents by this variable. From the interview dialog there was a problem of Integration with other modules and interface with T24 like effect of dependency across modules, system integration test problem, and delay in interface issue are the challenges for ERP system implementation.

**Table 4.13 Problems of requirement definition and customization**

	Frequency	Valid Percent
Strongly disagree	53	51.0
Disagree	22	21.2
Neutral	2	1.9
Agree	11	10.6
Strongly agree	16	15.4
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.13 above shows the respondent's level of agreement to the statement Problems of requirement definition and customization. From those 26% of the respondents show their level of agreement. On the other side, majority of the respondents which is 72.2% disagree and the remaining 1.9% of the respondents is neither agrees nor disagrees. Table 4.20 below indicates that the mean value of 2.18 and standard deviation of 1.5. This implies that majority of the respondents disagree the statement that means requirement definition and customization is controlled and it is not a challenge for the implementation of ERP project.

**Table 4.14 ERP system too complex**

	Frequency	Valid Percent
Strongly disagree	53	51.0
Disagree	25	24.0
Neutral	4	3.8
Agree	16	15.4
Strongly agree	6	5.8
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.14 depicted the degree to which respondents state of agreement to the statement complexity of the ERP system, 21.2% of the respondents agreed that ERP system is too complex. On the other side majority of the respondents which is 75% states that the system is not complex and it is easily understand. The remaining 3.8% are neither of the two sides. As indicated in table 4.20 below, the mean value is 2.0 and standard deviation is 1.3.this implies that majority of the

respondents disagree the statement that means even if ERP system is complex set of software, it is not a challenge of CBE ERP implementation.

**Table 4.15.Poor technological infrastructure**

	Frequency	Valid Percent
Strongly disagree	7	6.7
Disagree	16	15.4
Neutral	7	6.7
Agree	36	34.6
Strongly agree	38	36.5
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.15 above shows that respondents level of agreement to the statement saying “poor technological infrastructure” majority of the respondents which is 71.1% shows their agreement to the statement. On the other hand, 21.1% of the respondents disagree and remaining 6.7% are neither of the two sides. As portrayed in table 4.20 below the standard deviation was 1.2 which implied that the data points tended to be close to the mean i.e. 3.8 and there was general consensus by the respondents for such specific variable under consideration. Poor technological infrastructure is the challenge for the implementation of ERP project.

**Table 4. 16.Standardization problem**

	Frequency	Valid Percent
Strongly disagree	13	12.5
Disagree	14	13.5
Neutral	7	6.7
Agree	33	31.7
Strongly agree	37	35.6
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.16 above shows that the respondent’s level of agreement to the statement problems of standardization majority of the respondents which is 67.3% were agreed to the statement, 6.7% of them was neither agreed nor dis agreed and the rest 26% was disagreed to the statement. As indicated in table 4.20 below the mean value is 3.6 and standard deviation is 1.4 which is data

point close to the mean. This implies that majority of the respondents assertive that standardization is a challenge for ERP implementation. From the interview discussion, standardizing and mapping the bank's business processes to match the ERP software is seen as a challenging task, leading to attempts of modifying the software to match their business needs. Standardization of the processes across the unit's works such as Bank's former trend of paying acting allowance of the employee was effective when he/she worked 15 days of the month otherwise not paid but now the system is by no means paying acting allowance for the employee who working even for a day, so many cases just like these should be standardized in to the system. That was so challenging to become to one consensus between the bank and the consultant.

**Table 4.17. System performance and network interruption**

	Frequency	Valid Percent
Strongly disagree	10	9.6
Disagree	15	14.4
Neutral	6	5.8
Agree	35	33.7
Strongly agree	38	36.5
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.17 above shows that respondent's level of agreement to the statement system performance and network interruption, majority of the respondents which 72.2% agreed, on the other hand 24% of the respondents disagree and the remaining 5.8% are neither of the two sides. As portrayed in table 4.20 below the standard deviation was 1.34 which inferring that the data points tended to be close to the mean i.e. 3.7 and there was general consensus by the respondents for such specific variable under consideration. This implies that system performance and network interruption is a challenge for ERP system implementation. According to the interview, due to extension programs developed to address specific CBE requirements that could not met through parameterization, system encountered repeated slowness especially the payment approvals and data loading. Considerable improvements are observed through time though still it needs further enhancement. The other challenge encountered was lack of sub processes connection to the centralized system as most of the Head office organs didn't require such

connection before. Before go-live and start of operation, all user organs make it ready by the help of project technical team and start of system becomes stable.

**Table 4.18 High costs of software**

	Frequency	Valid Percent
Strongly disagree	45	43.3
Disagree	27	26.0
Neutral	7	6.7
Agree	11	10.6
Strongly agree	14	13.5
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.18 above emphasizes the issues regarding to the level of costs for the software. As shown in the table out of 104 respondents 25% agreed as the costs for the software is high, whereas 72% of the respondents disagreed as there are high costs for the software but 7% of the respondents did say neither. Referring to table 4.20 below, the standard deviation was calculated at 1.4 which implied that the data was extended out over a large range of values which means there were varied options among respondents regarding this specific variable considered. The data points tended to be close to the mean i.e. 2.2 and meaning that more of smaller values were concentrated around the mean. This implies that even if high cost of ERP is the major challenge for implementing specially for small size companies, from the respondents' response the researcher concluded that cost of software is not an issue for the CBE and it is not a challenge.

**Table 4. 19 Problem of data inaccuracy**

	Frequency	Valid Percent
Strongly disagree	8	7.7
Disagree	10	9.6
Neutral	5	4.8
Agree	43	41.3
Strongly agree	38	36.5
Total	104	100.0

Source: SPSS Survey, 2018

Concerning data inaccuracy problems table 4.19 above summarized that 81% of respondents are in favor of the statement where as 18% are against the statement but 5% are neither agreed nor disagreed. As indicated in table 4.20 below the standard deviation was 1.22 which inferring that the data points tended to be close to the mean i.e. 3.89 and there was general consensus by the respondents for such specific variable under consideration. Therefore, data inaccuracy is a challenge for ERP system implementation and majority of the respondents asserted that the bank consider this variable. Data cleansing was a very high challenge. From the interview dialogue, it is known that the impact of data inaccuracy in a unified system of ERP will be great affecting every decisions made on that data, which requires utmost effort and rework to purify the current data. The HR profile was maintained in legacy system. However, the new system requires multiple times more data than the existing to smooth intra module integration. Accordingly, cleansing the existing data as well as collection of additional information took more time. In Finance module the major migration is done on fixed asset data and Renaissance dam bond. In SCM also there was a difference between T24 Stock balance & inventory balance; doing reconciliation and migration was difficult. Even if the task has affected the schedules, finally the project team /ERP supply chain management & Finance/ has identified what should be migrated to Oracle GL & fixed asset.

**Table 4.20. Statistical summary on technological challenges of ERP system implementation**

Technological challenges	Mean	Standard deviation	Combined Average of mean
Integration different types of data was a big Problem	3.7	1.3	3.15
Problems of requirement definition and Customization	2.18	1.52	
ERP system too complex	2.01	1.3	
Poor technological infrastructure	3.8	1.27	
Standardization problem	3.6	1.4	
System performance and network interruption	3.7	1.34	
High costs of software	2.2	1.44	
Problems of data inaccuracy	3.89	1.22	

Source: SPSS Survey, 2018

Table 4.20 shows the consolidated statistical results on the variables under technological challenge including the number of frequencies, the Mean, and Standard Deviation of the data points. The mean tried to tell the average where the data points fall for each specific variable while the standard deviation column showed the variability of the data points for each variable under consideration. The major technological challenges for the implementation of the system highly stated by the respondents are: Integration of different types of data, Poor technological infrastructure, standardization problem, System performance and network interruption and Problem of data inaccuracy with mean value of 3.7, 3.8, 3.6, 3.7 and 3.89 respectively. On the other hand, ERP system complexity, Problems of requirement definition and customization and costs of software with mean value 2.18, 2.01 and 2.25 are not stated by the respondents as implementation challenges.

#### 4.1.4 Individual challenges

A total of 4 questions on individual challenges of ERP system implementation were asked to indicate the extent to which each respondent agrees to corresponding closed ended statements rated on a five-point Likert type scales ranging from ‘1’ “Strongly Disagree” to ‘5’ “Strongly Agree”. Where: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

**Table 4.21. Problem in users’ adoptability**

	Frequency	Valid Percent
Strongly disagree	8	7.7
Disagree	16	15.4
Neutral	7	6.7
Agree	42	40.4
Strongly agree	31	29.8
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.21 above shows that respondents level of agreement to the statement “Problem in users’ adoptability,” majority of the respondents about 70.2% agreed the statement. On the other hand, 23.1% of the respondents disagree and the remaining 6.7% are neither of the two sides. As indicated in table 4.25 below the standard deviation was 1.2 which inferring that the data points tended to be close to the mean i.e. 3.7 and there was general consensus by the respondents for

such specific variable under consideration. This implies that there was high tendency of users in using the legacy data for their financial information/report and adopt the new system is so challenging. From the interview discussion, ERP project is expected to trigger major changes in way of doing business across the bank. Along with the implementation of the new system, the bank has planned to adopt best practices and hence is required to passed through substantial changes from its prevailing business practices and processes. The ERP system is expected to fully automate the internal processes and support functions based on its strong features of “ Self Service” functionality. Therefore users are required to initiate and follow up specific transaction online using the self service features. This is a new business paradigm which expects users to shift to paperless transaction, thus has become a challenge.

**Table 4.22 Lack of user involvement and addressing adequate training**

	Frequency	Valid Percent
Strongly disagree	13	12.5
Disagree	11	10.6
Neutral	3	2.9
Agree	45	43.3
Strongly agree	32	30.8
Total	104	100.0

Source: SPSS Survey, 2018

By taking lack of user involvement and addressing adequate training as one determining factor of implementation in table 4.22 above a query “lack of user involvement and addressing adequate training” was raised. And hence 74.1% agreed, 23.1% disagreed and 2.9% are neither agreed nor disagreed. As indicated in table 4.25 below the standard deviation was 1.3 which implied that the data points tended to be close to the mean i.e. 3.69 and there was general consensus by the respondents for such specific variable under consideration. Therefore, there was general consensus by the respondents that user involvement and adequate training plays a vital role for the implementation of the system, absence of concerned user involvement and inadequate training is a challenge for implementation of the system.

**Table 4.23 Employee resistances to the new system**

	Frequency	Valid Percent
Strongly disagree	56	53.8
Disagree	37	35.6
Agree	6	5.8
Strongly agree	5	4.8
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.23 above shows that respondent's level of agreement to the statement saying that "Employee resistance to the system," majority of the respondents about 89.4% disagreed. Rather, employees' relief due to its automation when it commenced as a new system in the bank. On the other hand, only 10.6% of the respondents agreed. Table 4.25 below indicates that the standard deviation was 1.1 which implied that the data was extended out over a large range of values which means there were varied options among respondents regarding this specific variable considered. The data points tended to be close to the mean i.e. 1.7 and there was general consensus by the respondents for such specific variable under consideration. From this the researcher inferred that no matter how the fact that, it is obvious to be reluctant in most companies for a new system to be in effect, in the CBE such an episode was not visualized while the implementation of the system is commenced in the CBE.

**Table 4.24 poor conceptual knowledge of consultant**

	Frequency	Valid Percent
Strongly disagree	11	10.6
Disagree	15	14.4
Neutral	4	3.8
Agree	38	36.5
Strongly agree	36	34.6
Total	104	100.0

Source: SPSS Survey, 2018

Table 4.24 above shows the respondents level of agreement to the statement "poor conceptual knowledge of consultant," majority of the respondents which is 71.1% agree the statement while 25% of the respondents disagree and the remaining 3.8% neither of the two. As indicated in table 4.25 below the standard deviation was 1.3 which implied that the data points tended to be

close to the mean i.e. 3.7 and there was general consensus by the respondents for such specific variable under consideration. Therefore, there was general consensus by the respondents that conceptual knowledge of consultant must consider and is a challenge for the implementation of ERP system. From the interview discussion, late response by consultant for raised issue, knowledge and capability gap of consultants about knowing the banks performance and processes is a challenge for system implementation.

**Table 4. 25. Statistical Summary on individual challenges of ERP system implementation**

Individual challenges	Mean	Standard deviation	Combined Average of mean
Problem in users' adoptability	3.7	1.26	3.2
Lack of user involvement and addressing adequate training	3.69	1.34	
Employee resistance to the new system	1.72	1.06	
Poop conceptual knowledge of consultant	3.7	1.36	

Source: SPSS Survey, 2018

Table 25 shows the consolidated statistical results on the variables under individual challenge including the number of frequencies, the Mean, and Standard Deviation of the data points. The mean tried to tell the average where the data points fall for each specific variable while the standard deviation column showed the variability of the data points for each variable under consideration. The major individual challenges for the implementation of the system highly stated by the respondents are Problem in users' adoptability, Lack of user involvement and addressing adequate training and Poop conceptual knowledge of consultant with mean value of 3.7, 3.69, and 3.7 respectively. On the other hand, employee resistance to the system with mean value of 1.72 is not stated by the respondents as a challenge.

To let employees, add on whatever additions they have about the system additional question was placed at the last part of the questionnaire for the respondents, but only few respondents has reacted on it and their response is now summarized as below: -

- The problem of the system starts before it begins. Because the hired personnel didn't know why they were hired and in which position or responsibility they fit and no information was given.

- Problem of prioritize issues according to their sensitivity.

The manager suggested the following points regarding ERP project implementation.

- Flexibility is major quality in project
- Expecting challenges always and looking for solutions instead of dwelling on problems.
- Good communication
- Work for win-win solution with Consultants

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION**

### **5.1 Summary of major Findings**

The study has conducted detail interview, questionnaire, and documents review and finally identified challenges that face the implementation of ERP system. Accordingly, this part of the research summarizes the major findings of the study.

The study found that out the organizational challenges influencing the implementation of ERP system, majority of the respondents believed that lack of formal communication with end users is the most influential challenge for ERP system implementation. The second most pressing organizational challenge that the research spotted out on facing ERP system implementation was problems of quality training facility and coordination. Inadequate access of physical equipment was ranked on the 3rd place. Lack of time management and lack of incentives/ allowance and reward system to project members were considered as the 4<sup>th</sup> and 5<sup>th</sup> organizational challenges of ERP system implementation. On the contrary majority of the respondents believed that lack of top management support and commitment and lack of effective team composition and coordination is not considered as a challenge for ERP system implementation.

Regarding to technological challenges, majority of the respondents believed that data inaccuracy is the most influential challenge for ERP system implementation. System performance and network interruption is the second technological challenge. Integration different types of data, poor technological infrastructure and standardization problems are other technological challenges for ERP system implementation. On the contrary majority of the respondents believed that high cost of software, ERP system complexity and problems of requirement definition and customization are not considered as challenges for system implementation.

Concerning the individual challenges, majority of the respondents believed that lack of user involvement and addressing adequate training is the most influential challenges for ERP system implementation. Poor conceptual knowledge of consultant and problem in users' adoptability were other individual challenges for ERP system implementation. On the contrary majority of the respondents believed that employee resistance to the new system is not a challenge for ERP system implementation.

## **5.2 Conclusion**

The primary objective of this study was to identify challenges facing the implementation of ERP at commercial bank of Ethiopia. The findings of the study revealed that the major challenges that face the implementation of ERP system grouped in three variables called organizational, technological and individual challenges

Under organizational variables the researcher found that major challenges on the implementation of the system are lack of time management, lack of formal communication with end users, inadequate access of physical equipment, Lack of incentives/allowance and reward system to project member, problems of quality training facility and coordination are addressed in depth.

Concerning the technological variables lack of integration among different types of data, presence of poor technical infrastructure, problems of standardization, system performance and network interruption as well as data inaccuracy are the other pressing problems in addition to problems under the organization variable for the well implementation of the system.

Finally, individual challenges facing the implementation of ERP system are problem in users' adoptability, lack of user involvement and addressing adequate training and poor conceptual knowledge of consultant are identified from the response of the respondents.

In general, the findings of the study emphasize challenges influencing the implementation of ERP project of commercial banks of Ethiopia. Barriers identified in this study while implementing the ERP project may help to indicate the best alternative course of actions to enhance its development.

### 5.3 Recommendations

As explained earlier, the objective of the study is to identify challenges facing ERP implementation at CBE. Depending on the finding, the researcher recommends the following suggestions;

- Even if ERP system has an advantage of provides integrated modules across all organizational functions the bank should notice and fail to appreciate the degree of change an ERP solution causes which is due to focusing on only implementing the particular single application like oracle. Thus, the researcher recommended that regarding integration, the bank needs to have a holistic approach, business application, technology and people perspective, and not just a focus on only implementing the particular application.
- Top management of organization should strengthen supporting the project and ensure that all the resources required are available needed for the implementation of the system.
- The study also recommends that effective channels of communication should also be adopted. This will clarify the benefits of ERP to the employees and also increase its acceptance level among employees.
- Training is very critical factor in ERP implementation since ERP system is relatively new and complex. Organizations should carefully assess the training needs of their employees, the type, and quality, content, duration of the training must be clearly arranged and controlled.
- The obvious resolving data inaccuracy is a complex undertaking as it usually involves modification of an ERP system's structure. These modifications should not be recommended as they require massive development efforts and specialized skills and might even lead to unexpected future software difficulties during upgrades.
- Other Ethiopian organizations specifically financial sectors planning to implement ERP system can consider all critical challenges identified in this study as input for managing their ERP project. CBE can also use this study as post project lessons assessment especially in some areas that are not part of the system.
- Finally, the researcher also recommended that it is very essential more research case studies of ERP implementation should be conducted in Ethiopian organization to strengthen the findings of implementation challenges and adaptability of the system advantage.

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**Appendix**  
**ADDIS ABABA UNIVERSITY**  
**COLLEGE OF BUSINESS AND ECONOMICS**  
**SCHOOL OF COMMERCE**  
**Masters of Art in Project Management**

**Dear Respondents**

The main purpose of this questionnaire is to gather information about the implementation challenges of ERP (Enterprise Resources Planning) at commercial bank of Ethiopia for the partial fulfillment of the requirements for Masters of project management at Addis Ababa University. The outcome of this study will be used for academic purpose only.

Therefore, your genuine response to the questions is vital for the quality and successful completion of the study. The accuracy of the information you provide highly determine the reliability of the study. Knowing that your time is valuable, please take a few minutes to complete the questionnaire. Thank you very much for your time and assistance in my educational endeavors. This will be used only for intended purpose and kept confidential.

Thank you in advance for your cooperation!

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

1. Gender:

1. Male                    [ ]      2. Female                [ ]

2. Age Group

1. 20 – 30                [ ]      2. 31 – 40                [ ]  
3. 41 and above        [ ]

3. Educational Status:

1. Diploma              [ ]      2. BA/BSC                [ ]  
3. Masters & Above [ ]

4. Other please specify \_\_\_\_\_

## Part 2: Issues Related with the study area

### Implementation challenge of ERP

#### 1. Organizational challenges of ERP implementation

How much do you agree or disagree with the following statements about the organizational challenges faced by your organization during 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

No	Statement	Scale				
		5	4	3	2	1
1	Lack of top management support commitment	5	4	3	2	1
2	Inadequate access of physical equipment	5	4	3	2	1
3	Lack of incentives/allowances and reward system to Project members	5	4	3	2	1
4	Lack of time management	5	4	3	2	1
5	lack of formal communication with end users	5	4	3	2	1
6	Lack of effective team composition and coordination	5	4	3	2	1
7	Problems of quality training facility and coordination	5	4	3	2	1

#### 2. Technological challenges of ERP implementation

How much do you agree or disagree with the following statements about the technological challenges faced by your organization during 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

	Statement	Scale				
		5	4	3	2	1
1	Integration different types of data was a big Problem	5	4	3	2	1
2	Problems of requirement definition and Customization	5	4	3	2	1
3	ERP system too complex	5	4	3	2	1
4	Poor technological infrastructure	5	4	3	2	1
5	Standardization problem	5	4	3	2	1
6	System performance and network interruption	5	4	3	2	1
7	High costs of software	5	4	3	2	1
8	Problems of data inaccuracy	5	4	3	2	1

### 3. Individual challenges of ERP implementation

How much do you agree or disagree with the following statements about the organizational challenges faced by your organization during 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

No	Statement	Scale				
		5	4	3	2	1
1	problem in users' adoptability	5	4	3	2	1
2	Lack of user involvement and addressing adequate training	5	4	3	2	1
3	Employee resistance to the new system	5	4	3	2	1
4	Poor conceptual knowledge of consultant	5	4	3	2	1

If there is any other problem that you observed in relation to ERP implementation, please writes down .....

.....  
 .....

## **Interview Questions**

1. What were the major challenges for the implementation of ERP project?
2. What were the Organizational challenges for the implementation of ERP project?
3. What were the Technological challenges for the implementation of ERP project?
4. What were the Individual challenges for the implementation of ERP project?
5. Any ideas and comments of your experience on this project