



**ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES**

**ASSESSMENT OF TRANSITION STRATEGIES ON
IMPLEMENTATION OF ENTERPRISE RESOURCE PLANNING
PROJECT AT INDUSTRIAL PARKS DEVELOPMENT
CORPORATION**

**BY
FEKRE TADGAGNE ABERA**

**JUNE 2021
ADDIS ABABA, ETHIOPIA**

**ASSESSMENT OF TRANSITION STRATEGIES ON
IMPLEMENTATION OF ENTERPRISE RESOURCE PLANNING
PROJECT AT INDUSTRIAL PARKS DEVELOPMENT
CORPORATION**

BY

FEKRE TADEGAGNE ABERA

**A THESIS SUBMITTED TO ST. MARY'S UNIVERSITY SCHOOL OF
GRADUATE STUDIES IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTERS OF PROJECT
MANAGEMENT**

**JUNE 2021
ADDIS ABABA, ETHIOPIA**

EXAMINERS PAGE

**ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
FACULTY OF BUSINESS**

**ASSESSMENT OF TRANSITION STRATEGIES ON IMPLEMENTATION OF
ENTERPRISE RESOURCE PLANNING PROJECT AT INDUSTRIAL PARKS
DEVELOPMENT CORPORATION**

**BY
FEKRE TADEGAGNE ABERA**

APPROVED BY BOARD OF EXAMINERS

Dean, Graduate Studies

Signature

Tiruneh Legesse (Asst. Professor)
Advisor



Signature

External Examiner

Signature

Internal Examiner

Signature

DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Mr. Tiruneh Legesse (Assistant Professor). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Name: Fekre Tadegagne Abera

Signature: _____

St. Mary's University, Addis Ababa

June, 2021

ENDORSEMENT

This thesis “Assessment Of Transition Strategies On Implementation Of Enterprise Resource Planning Project At Industrial Parks Development Corporation” has been submitted for examination with my approval as thesis.

Tiruneh Legesse (Assistant Professor)

Advisor



Signature

St. Mary's University, Addis Ababa

June, 2021

ACKNOWLEDGMENT

Above all, I would like to thank my parents for their unreserved support while studying for this master's degree at St. Mary's University.

Special thanks goes to my advisor – Mr. Tiruneh Legesse – for his continued support and guidance during the preparation and submission of this thesis paper. I highly appreciate Mr. Tiruneh for providing me constructive suggestion on my paper that has resulted me to become a better student.

Of course, huge appreciation goes to Industrial Parks Development Corporation (IPDC) for allowing me to gather data as an input for this thesis paper. IPDC's employees' contribution is highly appreciated.

At last, I would like to thank for all instructors, student service members, librarians and other staff at St. Mary's University for their continued assistance during my course years.

Table of Contents

EXAMINERS PAGE	3
STATEMENT OF DECLARATION	4
ENDORSEMENT	5
ACKNOWLEDGMENT	6
Table of Contents	7
List of Figures	9
List of Tables	9
Acronyms and Abbreviations	11
ABSTRACT	12
CHAPTER ONE	13
INTRODUCTION	13
1.1 Background of the Study	13
1.2 Statement of the Problem	14
1.3 Research Questions	16
1.4 Objectives of the Study	16
1.5 Significance of the Study	17
1.6 Scope of the Study	17
1.7 Limitations of the Study	17
1.8 Organization of the Study	18
CHAPTER TWO	19
REVIEW OF RELATED LITERATURE	19
2.1 Theoretical Review	19
2.2 Empirical Review	31
2.3 Conceptual Framework	34
CHAPTER THREE	35
RESEARCH DESIGN AND METHODOLOGY	35
3.1 Research Design	35
3.2 Population and Sampling Techniques	35
3.3 Source of Data and Methods of Data Collection	36
3.4 Procedures of Data Collection	37
3.5 Method of Data Analysis	37
3.6 Validity of the study	38
3.7 Reliability of the study	38
3.8 Ethical Considerations	38
CHAPTER FOUR	39
RESULTS AND DISCUSSION	39

4.1 General Background on ERP	39
4.1.1 Respondents’ Bio Data	39
4.1.2 ERP Service Duration	40
4.1.3 Category of ERP Product.....	41
4.1.4 Reason for ERP	42
4.1.5 ERP Project Management Office (PMO)	43
4.1.6 ERP PMO Participation.....	44
4.1.7 Pre-ERP Environment	45
4.2 Specific about ERP Transition Strategy	46
4.2.1 ERP Transition Strategy	46
4.2.2 Who Selected the Strategy	47
4.2.3 Factors for Strategy Selection.....	48
4.2.4 Outcome of Project based on selected strategy	49
4.2.5 Suitability of selected ERP Strategy.....	50
4.3 Overall Understanding on ERP Transition Strategy	51
4.3.1 Related to Choice of ERP Transition Strategy.....	51
4.3.2 Related to Suitability of Selected ERP Transition Strategy	53
4.3.3 Related to Mix (Combination) of ERP Transition Strategies	54
4.3.4 Related to Selected ERP Transition Strategy with Scope, Time, Budget and Quality of the ERP Project.....	56
4.3.5 Related to Selected ERP Transition Strategy with overall completion of ERP Project	57
CHAPTER FIVE	59
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	59
5.1 Summary of Major Findings	59
5.2 Conclusions.....	60
5.4 Recommendations	61
References	63
ANNEXES	66

List of Figures

- Figure 1 – ERP Evolution (Source: (Jessy, Reddy, & Samuel, 2011))
- Figure 2 – Architecture of ERP (Source: (K.Ganesh, Mohapatra, Anbuudayasankar, & Sivakumar, 2014))
- Figure 3 – Architecture of ERP with Modules Source: (Kay & Ovlia, 2014)
- Figure 4 – ERP Modules (Source: Own Depiction)
- Figure 5 – Major Type of ERP Systems (Source: (Gartner, 2021))
- Figure 6 – ERP Deployment Options (Source: (Panorama, 2019))
- Figure 7 – People, Process, Technology (Source: (Kay & Ovlia, 2014))
- Figure 8 – Big Bang Transition Strategy (Source: Leon. A, 2014)
- Figure 9 – Phased ERP Transition Strategy (Source: Leon. A, 2014)
- Figure 10 – Parallel ERP Transition Strategy (Source: Leon. A, 2014)
- Figure 11 – Conceptual Framework (Source: Own Depiction)
- Figure 12 – Cronbach’s Alpha (Source: Own Depiction)

List of Tables

- Table 1: Respondents’ Bio Data (Source: Own Survey, 2021)
- Table 2: ERP Deployment Period (Source: Own Survey, 2021)
- Table 3: ERP Category (Source: Own Survey, 2021)
- Table 4: Reason for Having ERP (Source: Own Survey, 2021)
- Table 5: ERP Project Management Office (Source: Own Survey, 2021)
- Table 6: ERP Project Role Per User (Source: Own Survey, 2021)
- Table 7: Previous ERP Environment (Source: Own Survey, 2021)
- Table 8: ERP Transition Strategy (Source: Own Survey, 2021)
- Table 9: ERP Strategy Decider (Source: Own Survey, 2021)
- Table 10: ERP Transition Selection Factors (Source: Own Survey, 2021)
- Table 11: ERP Completion Based on Transition Strategy (Source: Own Survey, 2021)
- Table 12: ERP Transition Strategy Suitability (Source: Own Survey, 2021)
- Table 13: Questions Related to Choice of ERP Transition Strategy (Source: Own Survey, 2021)

Table 14: Questions Related to Suitability of Selected ERP Transition Strategy (Source: Own Survey, 2021)

Table 15: Questions Related to Mix of ERP Transition Strategies (Source: Own Survey, 2021)

Table 16: Questions Related to selected ERP transition strategy with Scope, Time, Budget and Quality (Source: Own Survey, 2021)

Table 17: Questions Related to selected ERP transition strategy with over all completion of the ERP project (Source: Own Survey, 2021)

Acronyms and Abbreviations

CRM – Customer Relationship Management

CBE – Commercial Bank of Ethiopia

ERP – Enterprise Resource Planning

IPDC – Industrial Parks Development Corporation

MOFED – Ministry of Finance and Economic Development

SCM – Supply Chain Management

ABSTRACT

The purpose of this research is to assess the transition strategy of ERP project at Industrial Parks Development Corporation. Implementing an ERP system in any business company brings significant change to the working environment. As such, the transition from the old environment to the new one with deployment of ERP system needs careful consideration. There are several types of ERP transition strategies that can be applied, which includes Big-Bang, Phase by Phase, Roll Out, Pilot Program and Prototype. Also, any of the transition strategies can be combined with another one to yield the desired ERP implementation outcome for the company. The research followed descriptive research method with census sampling to include all fifty-five staff who participated in the ERP project. Both Qualitative and Quantitative data analysis were used to analyze primary and secondary data. Questionnaire were distributed to all participants and 80% of the respondents provided their feedback along with four in-depth interviews on some of the questions. At IPDC, the ERP project followed mainly Phase-by-Phase type of transition strategy by mixing with Roll Out in order for the corporation to make the ERP system available at Head Office as well as each industrial parks throughout Ethiopia. Based on the feedback obtained from questionnaire respondents, such type of transition strategy was suitable for the corporation by considering the budget, scope time and quality of the ERP system. During in depth interview, the researcher also found out that the corporation chose to use phased approach of transition strategy due to budget limitation from the project sponsors. During the ERP project, the corporation formed a dedicated ERP Project Management office (PMO) that oversaw the implementation using phased approach to deploy the identified modules in the Finance, Human Resource and Procurement departments. In conclusion, the researcher found out that the corporation was able to successfully deploy the ERP system at Head Office and branch industrial parks by mixing phase and roll out transition strategies. The researcher recommended that similar type of ERP projects for large corporation with several branch locations could be deployed with “Pilot Program” type of transition strategy in order to utilize project resources as well as avoid potential risks of failure. Furthermore, ERP projects with multiple modules can also be deployed with phase-by-phase sub-modules by focusing on the main ones and later on integrating with additional modules as deemed necessary.

Key Words; *ERP, Phase, Big-Bang, Pilot, Roll Out, ERP Transition Strategy*

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Business companies go through transformations from time to time to modernize their operating environment. The pace of change continues to accelerate and corporations around the world seek to revitalize, reinvent, and resize in an effort to position themselves for success in the 21st century (Garg & Venkitakrishnan, 2004). One of the transformations is the deployment of Enterprise Resource Planning (ERP) systems. (Leon, 2014) defined Enterprise Resource Planning (ERP) as an enterprise-wide software solution that integrates and automates business functions of an organization. Alexis further indicated that ERP is real-time information integration across the organization functional areas increases operational efficiencies and helps managers to arrive at better decisions making to make the organization more competitive. ERP system is a centralized database system with set of business applications that comprise finance, purchase, sales, inventory, warehouse, and production. ERP system is an Information Technology (IT) based business modernization solution that covers an end-to-end functionality of any organization to make them technology dependent for superior effectiveness and efficiency of business operations.

Deploying ERP system at any company is considered as a major business solution project and requires meticulous project management in order to have successful completion. For most companies, however, having a successful deployment of ERP system has been very challenging, if not impossible to complete with the stated scope, budget, time and quality. According to Panorama Consulting Group's ERP 2010 Report, as much as 72% of companies, who had started to deploy ERP system, have failed to complete their projects for several reasons. Such staggering level of failure in the ERP industry has brought negative consequences to the deploying companies, their employees as well as the software industry, who develops the systems.

ERP deployments mainly focus on three pillars (Panorama Consulting Group's ERP 2019 Report) (Kay & Ovlia, 2014); these are People, Process and Technology. Panorama's report indicates that when implementing ERP, the organization needs to put alignment between people, process and the new technology. Considered as major IT/Business project, ERP deployment also requires full-

scale project management that would address several components during the project period. Although there are many reasons that could lead to ERP deployment failures, most of the causes of failures result from poor management of the project from different perspectives. Since deploying ERP is bringing considerable level of organizational changes, the transition from the old environment to the new environment has been crucially challenging for many companies, if not all of them. The plan, methodology, strategy of transition from the old working environment to the new one, hence, is considered as one of the single point of failure that would require further scrutiny during the deployment projects.

A theme of this paper is the assessment of ERP transition strategies and their usage towards successful completion of the ERP project at Industrial Parks Development Corporation (IPDC). The ERP project was kicked off on November 2, 2020 after successful bidding process. To assess the transition strategies of the ERP project, the researcher gathered first-hand information from participants of the ERP project at different levels and departments throughout IPDC.

In this study, the researcher assessed different types of ERP transition strategies and their usage towards successful completion of the ERP project. The big question in this study the researcher wanted to understand was “what type of ERP transition strategy was used by the ERP implementing company – IPDC - to have successful completion of the ERP project.” The researcher was also interested to assess if there was any mixed (hybrid) use of different types of ERP transition strategies during the ERP project. In doing so, the researcher hopes to assess transition strategies to be used as best practices for any new projects in the future.

1.2 Statement of the Problem

Business organizations always strive to provide best products and services to their customer. In order to provide such type of products and services, organizations need to have internal as well as external strengths that utilize current technologies as backbone of their operations. Information Technology based systems allow organizations to have information gathering, processing, reporting and forecasting in multiple ways to achieve stated objectives. One of such type of technology-based systems is an Enterprise Resource Planning (ERP) system.

ERP systems allow organizations to run their business operations by connecting all of their functional departments using a centralized database to have a single truth of information throughout the organization. In doing so, organizations could bring significant level of improvements that would benefit their employees, customers, and other stakeholders. However, deploying business supporting systems such as ERP to any company is challenging because it brings much deeper and wider transformations to the entire organization, which often times could become heavy burden for the organization as well as its employees. Especially, organizations who have been using manual, less technology dependent or silo based information processing systems would face significant challenges in transitioning from their old environment to a new ERP environment. As such, deploying ERP systems need careful understanding on different types of ERP transitioning strategies that would fit their operating environment.

In deploying ERP system, the main objective is to replace the old manual or desperately point systems by a centralized system. In order to achieve this main objective, organizations must decide on which type of transitioning strategies to follow to have successful completion of the ERP project. ERP transitioning strategies mainly include big-bang, parallel, phased, roll out and hybrid strategies (Leon, 2014). Sometimes, multiple type of strategies could be combined to yield the desired result of ERP deployment. As a result, choosing the right type of transition strategy is as important as focusing on people, technology and process of any ERP project because the type of transition strategy could determine who to participate, which modules to select and what processes are to be included during the ERP project.

ERP deployment practices in Ethiopia has been a recent trend as more and more organizations are deploying ERP systems to improve their business operations and customer services. Several organizations have attempted to deploy ERP system; however, most of these organizations have faced uphill battle to complete their ERP projects due to various reasons. Given the fact that most of the ERP systems have been developed by international software companies outside of Ethiopia, the deploying organization needs advanced understanding of enterprise level IT systems as well as business knowledge of international level.

Organizations in Ethiopia including IPDC, as government entities have deployed different types of ERP systems using one of the transitioning strategies mentioned above to complete their project. Hence, assessing the type of transition strategies at IPDC is the core theme of this paper in order to draw best practices that could be used to similar types of projects in the future. Moreover, the outcome of this research could be used to further enhance academic and practical knowledge of ERP projects in the future.

1.3 Research Questions

Following are the major research questions that could provide answers to the statement of problems.

1. What are the different types of transition strategies applied while deploying ERP systems?
2. Was the selected ERP transition strategy suitable for IPDC?
3. Can any of the transition strategies be combined with one another to have successful projects?

1.4 Objectives of the Study

Following are the general and specific objectives of the study.

1.4.1 General Objective

The general objective of this study is to assess the different types of ERP transition strategies while deploying ERP system at Industrial Parks Development Corporation (IPDC).

1.4.2 Specific Objectives

Following are the specific objectives of this study...

1. Identify different type of ERP transition strategies applied while deploying ERP project at IPDC.
2. Assess suitability of ERP transition strategy selected by IPDC for the ERP project
3. Assess if different types of transition strategies could be combined to achieve successful completion of the ERP project at IPDC

1.5 Significance of the Study

Understanding of ERP transition strategies being implemented at IPDC would benefit any organization in Ethiopia who is considering deploying ERP system in the near future. This study is beneficial to any organization; it is especially significant for public companies – like commercial banks, insurances, cooperative associations, government owned development corporations, foreign companies investing in Ethiopia through FDI, and privately owned conglomerate business companies who is considering deploying ERP systems as part of their digital transformation journeys.

Apart from organizations, the assessment of different type of transition strategies of ERP projects could be good source of lecture material for business and information systems students at any of Universities in Ethiopia and around the world. At any tertiary level education, the outcome obtained from this study could easily be replicated in order to have successful ERP projects either at university or at working companies in the future. Having clear understanding on ERP transition strategies by different businesses and sectors is helpful to facilitate ERP projects in the future.

1.6 Scope of the Study

This study focused only on the ERP implementation project at Industrial Parks Development Corporation (IPDC) who has recently deployed Tier I level ORACLE Cloud Fusion ERP system. The researcher focused on the overall ERP deployment practice and specifically assessed on different type of ERP transition strategies that were used by IPDC. The main participants of this study were steering committee members, core team members and end users at different levels of the corporation. Department wise, this study covered only three functional departments – Finance, Human Resource and Procurement/Property Administration.

1.7 Limitations of the Study

This study was limited in scope on assessing transition strategies of ERP project at Industrial Parks Development Corporation (IPDC). Hence, the researcher focused only ERP system projects excluding any other type of enterprise systems like CRM, EPM, HCM and BI.

Further studies could address the gap of assessing transition strategies of other types of enterprise systems mentioned above to obtain much deeper understanding on the topic. In addition, more ERP projects may be included by widening the period of ERP deployments at different types of business organizations.

The researcher faced uphill challenges during the questionnaire distribution and collection back from respondents, as most of them were super busy with their day-to-day operations while participating on the ERP project. As a result, questionnaire was distributed to head office employees as well as others who came to Addis Ababa for ERP trainings. Due to the Phased type of transition strategy applied by the corporation, other major departments such as Planning & Industrial Park Development, Engineering, Customer Care, Internal Audit and Business Development were not included in this study. Getting only around forty (40) respondents from the corporation limited the full scope of understanding on the type of transition strategy selected by the corporation.

To offset the limitations, the researcher resorted to incorporate secondary data from related ERP project reports, magazines, books, real live documents that supported the study of ERP transition strategies through the world. In doing so, the researcher was able to gain insightful knowledge and share the same with the readers for future references.

1.8 Organization of the Study

This study report contains five chapters. The first chapter covers the background of the study, statement of the problem, study objectives, significance of the study, scope of the study. Detailed literature reviews on the subject – both theoretical as well as empirical – reviews are covered under chapter two. The third chapter deals with the methodologies about the study that includes data source, sampling, data collection instruments and analysis method. The fourth chapter discusses the findings of the study. The last chapter – chapter five – discusses on the findings of the study along with conclusions and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Theoretical Review

2.1.1 Definition of Terms

Enterprise Resource Planning (ERP) – the techniques and concepts for integrated management of business or management of business as a whole with the objective of efficient and effective use of management resources and to improve the efficiency of enterprise management. (Leon, 2014).

Transition Strategy – different type of strategies, which include Big-Bang, Phased, Pilot Program, Roll Out, and Hybrid (Mix). (Leon, 2014), (Hall, 2008), (Turner, Weickgenannt, & Copeland, 2017)

Module – Different type of functional business departments in an organization such as Finance, Human Resource, Procurement, and Customer Service. (Turner, Weickgenannt, & Copeland, 2017)

Big Bang Transition Strategy – involves installing customer, vendor, employee and remaining modules for the entire enterprise at the same time. (Kay & Ovlia, 2014)

Phase-by-Phase Transition Strategy – Independent ERP systems can be installed in each business unit over time to accommodate the adjustment periods needed for assimilation. (Hall, 2008); Implements one functional module at a time, in sequential order. (Leon, 2014)

Parallel Transition Strategy – This approach keeps both the legacy system and the new ERP system active simultaneously for a length of time. (Leon, 2014)

Hybrid Transition Strategy – is a combination of the process line, phasing, and parallel transition strategies. (Leon, 2014); this approach combines several different phasing approaches based on an organization's unique needs. (Panorama, 2019)

2.1.2 Concept of Enterprise Resource Planning

Enterprise Resource Planning (ERP) is a centralized, database based set of business functionalities that cover end-to-end operations of business organizations (Leon, 2014). ERP systems mainly focus on recording, processing and reporting of financial transactions, although these systems also provide non-financial transactions that lead to transactions that have financial impact of the organization.

2.1.3 Historical Evolvement of ERP

The development of ERP systems dated back to 1960s, (K.Ganesh, Mohapatra, Anbuudayasankar, & Sivakumar, 2014) when companies focused on managing their inventory items as part of their manufacturing processes. Back then, it was initially called Material Requirements Planning (MRP) (Jessy, Reddy, & Samuel, 2011), which mainly processed the material requirements of production plans (Turner, Weickgenannt, & Copeland, 2017).

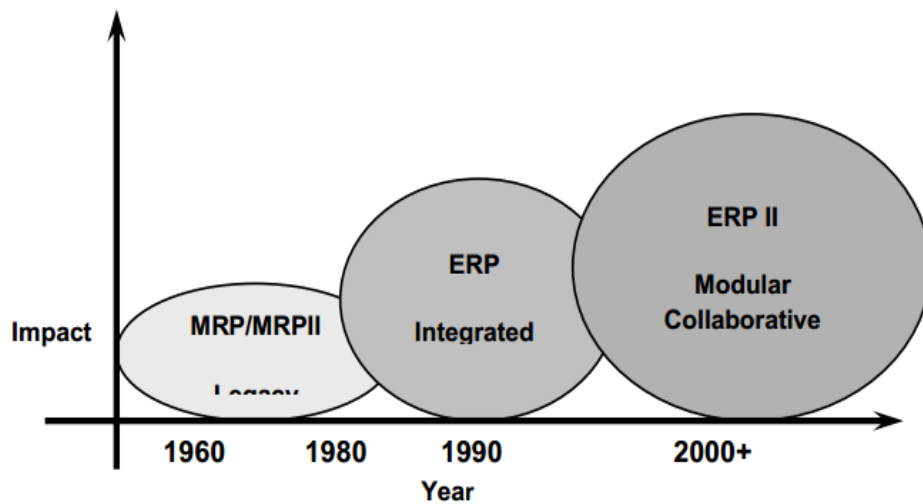


Figure 1 – ERP Evolution (Source: (Jessy, Reddy, & Samuel, 2011))

2.1.4 Architecture of ERP

To any ERP system, three major components (layers) are part of the overall ERP system. These are database layer, application (logical) layer and presentation (client) layer (K.Ganesh, Mohapatra, Anbuudayasankar, & Sivakumar, 2014). Based on the combination of these three types of layers, ERP architectures can be defined as either single tier, two tier, three tier or n-tier architectures (Hall, 2008).

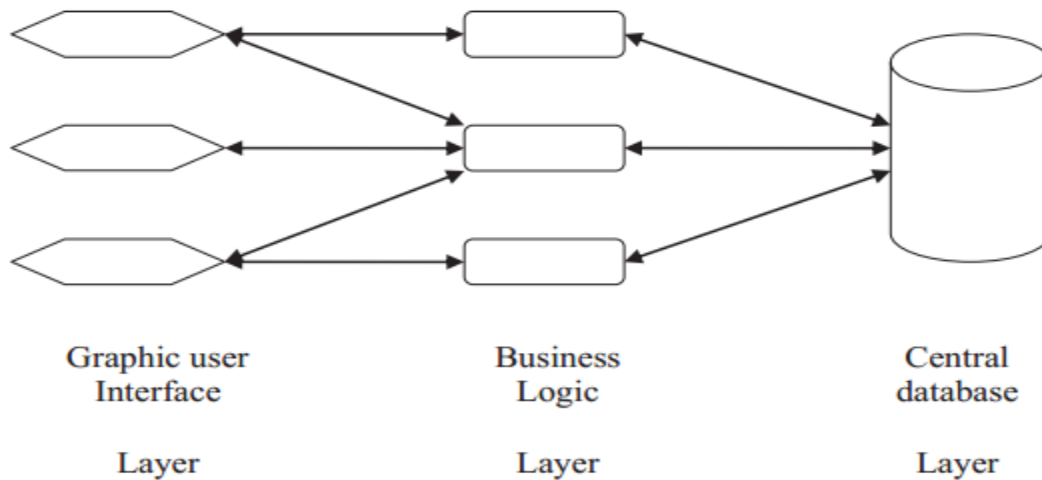


Figure 2 – Architecture of ERP (Source: (K.Ganesh, Mohapatra, Anbuudayasankar, & Sivakumar, 2014)

Single tier contains all three layers in a single server (computer); while two tier contains database and application layers installed on one server and clients are connected to the server through network.

Three-tier architecture contains all three layers on different servers; database is separately hosted on a single server, application layer has its own server and clients are connected to the application layer to access the database.

N-tier architecture may contain several layers ERP parts by breaking down some of the layers into further components. For instance, the application layer can further be divided into application component and process component, where each of these components can be installed on different machines.

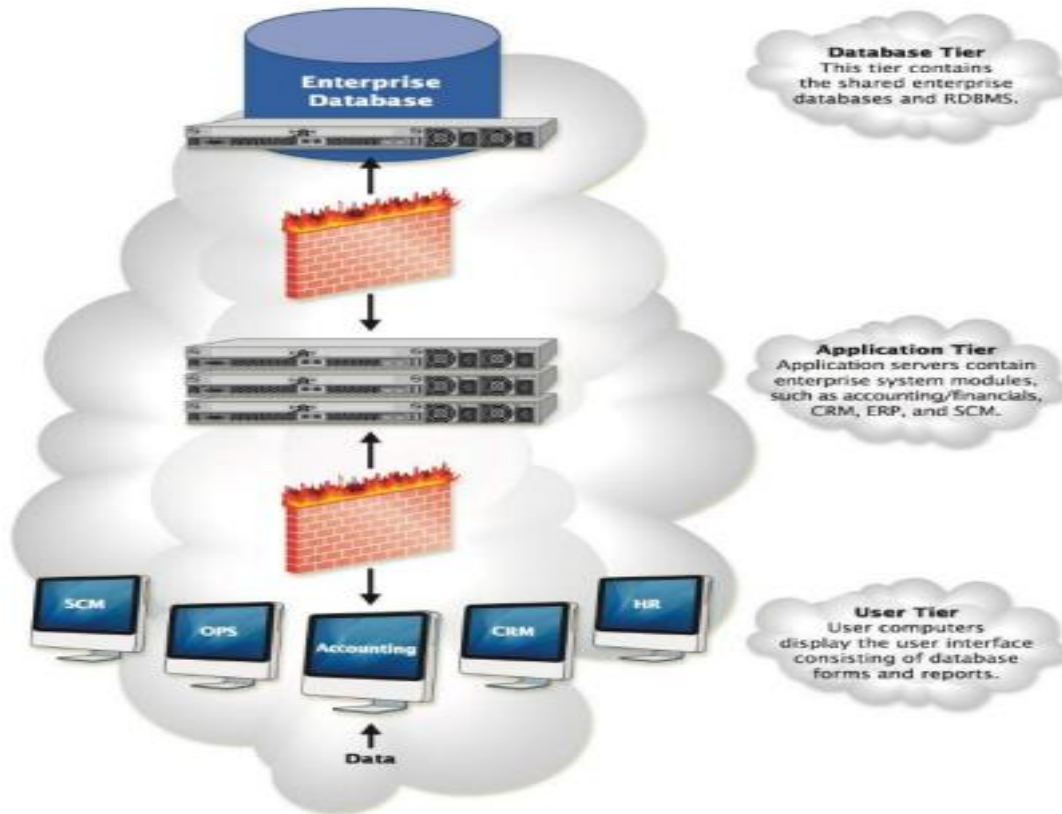


Figure 3 – Architecture of ERP with Modules Source: (Kay & Ovliia, 2014)

2.1.5 Modules or Functionalities of ERP

There are several types of modules that comprise an ERP system (K.Ganesh, Mohapatra, Anbuudayasankar, & Sivakumar, 2014). Below are some of the major modules of ERP system.

1. Financial Module
2. Inventory Module
3. Sales Module
4. Purchase Module
5. Production (manufacturing) Module
6. Fixed Asset Module
7. Warehouse Module
8. Quality Module

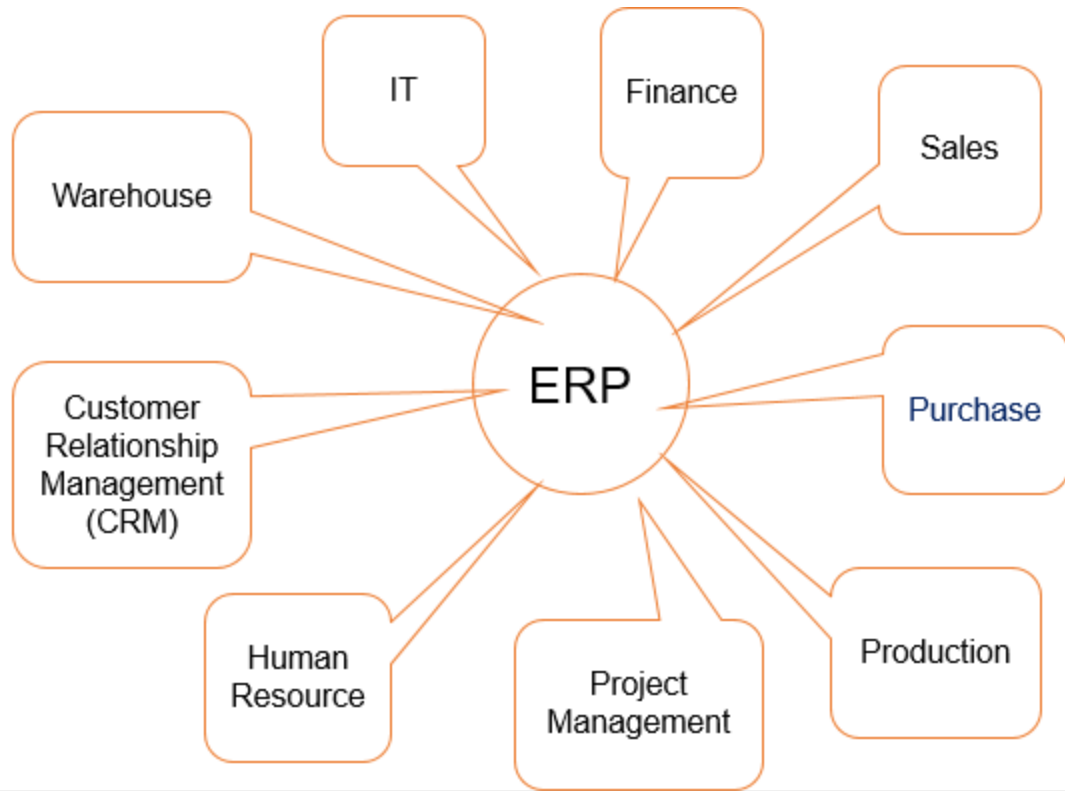


Figure 4 – ERP Modules (Source: Own Depiction)

2.1.5 Integration of ERP Systems

As indicated above, ERP system is a centralized set of business functionalities that work together to capture process and report financial transactions of businesses (Simkin, Rose, & Norman, 2012). Centralized refers to the database system that contains all data in the organization; each modules of the ERP system access the same database to have “Single Truth” (Mancini, Dameri, & Bonollo, 2016) of financial picture of the organization. As such, each module of the ERP system is internally integrated with each other module to write, update, delete and modify data in the system. In addition, each module allows data capturing of in its own context that can be accessed by the other modules to avoid redundancy of data capturing.

2.1.6 Major Types of ERP Systems

Several types of ERP system exist in the market. As per Gartner 2021 report, following are some of the top ERP system for financial system.

1. Oracle Cloud
2. SAP HANA
3. Microsoft Dynamics 365
4. SAGE
5. Infor
6. Acumatica
7. Oracle NetSuite
8. IFS
9. Epicor Software



Figure 5 – Major Type of ERP Systems (Source: (Gartner, 2021))

2.1.7 ERP Deployment Options

ERP deployments can be a simple set of tasks depending on the type of ERP system selected and the nature of business (Panorama, 2019). In addition, ERP deployments could become major IT projects especially for those companies with complex business processes and the type of ERP system. Either way, deploying ERP systems require some level of project involvement as it requires limited budget, time and scope. Most ERP system can be deployed through a dedicated project while the simple ones can be part of other major projects.

ERP systems can be deployed either On-Premise or in the Cloud (Panorama, 2019). The first option would require having an organization to have its own computer servers, networks and disaster recovery means to protect the system. The other option – cloud deployment – would simply allow organizations to deploy their ERP system through subscriptions without having any of the servers, network equipment and disaster sites.

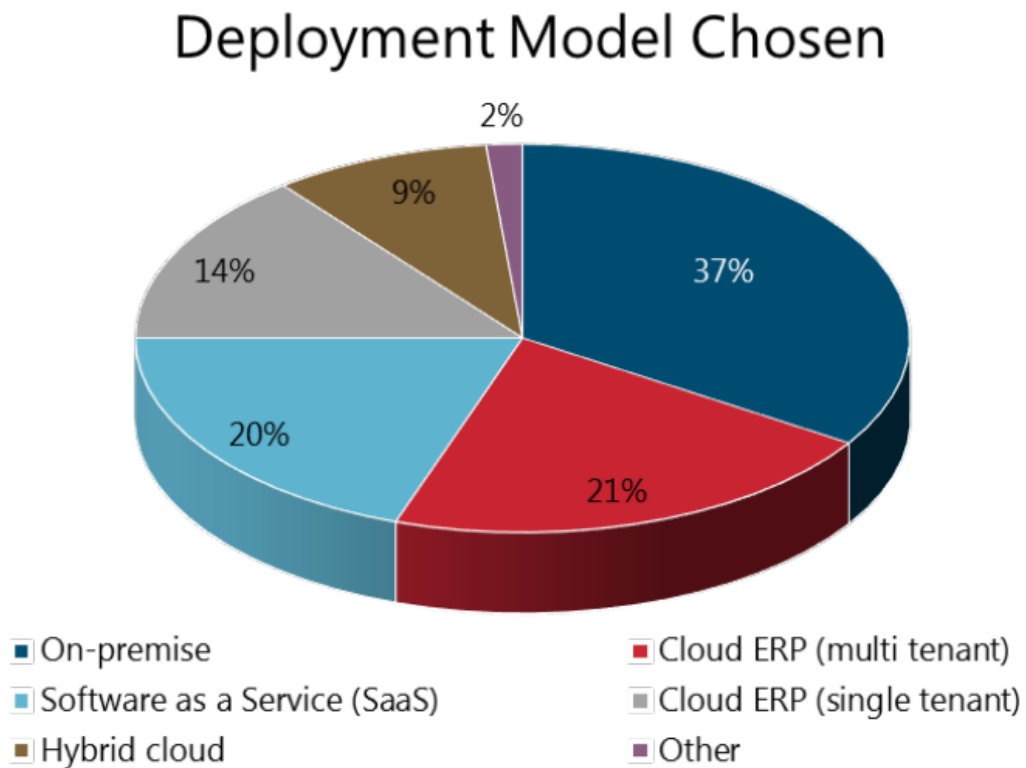


Figure 6 – ERP Deployment Options (Source: (Panorama, 2019))

2.1.8 Change Management of ERP Projects

Any ERP system deployment would bring change to the organization (Panorama, 2019), as it requires replacing an older system with a new one. Organizations that use manual or small scale accounting packages may need to go through major changes while deploying centralized ERP system. The depth of change might be different from system to system as well as business to business. Regardless, deployment of the ERP system would involve change management to successfully to replace the old system with a new one (Hall, 2008).

2.1.9 Factors affecting ERP Projects

There are three major pillars in ERP projects. These are People, Technology and Processes (Panorama, 2019), (Kay & Ovlia, 2014).

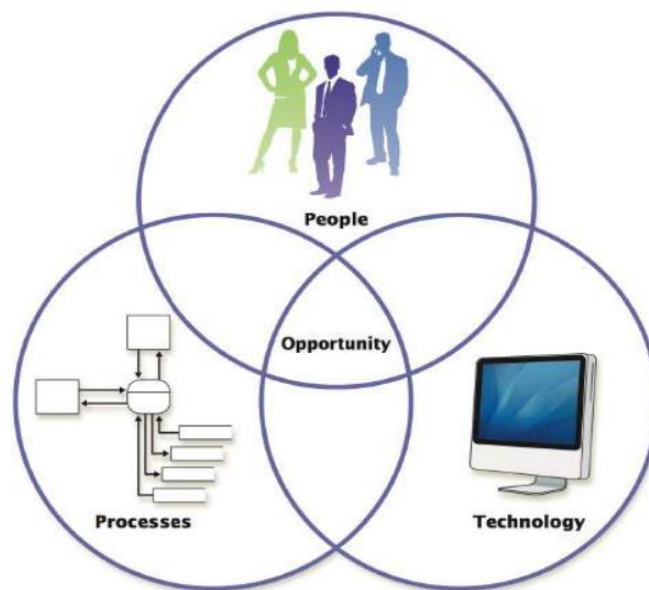


Figure 7 – People, Process, Technology (Source: (Kay & Ovlia, 2014)

Hence, these three are the core factors affecting any ERP project. Since, the ERP system are deployed through projects, the components of each project would also become factors that affect the successful deployment of the ERP system.

2.1.10 Transition Strategies of ERP Projects

As business organizations go through ERP deployments, the way of transitioning from the old system of doing things to the new ERP system significantly matters to have effective result (Leon, 2014), (Turner, Weickgenannt, & Copeland, 2017), . As such organizations must choose the right type of transition strategies that would fit their operating environment to handle the transformation of the organization (Shanks, B.Seddon, & P.Willcocks, 2003), (Monk & Wagner, 2013).

There are at least five types of transition strategies of ERP projects (Leon, 2014), (Hall, 2008), (Panorama, 2019).

A. Big-Bang

This involves installing customer, vendor, employee and remaining modules for the entire enterprise at the same time. (Kay & Ovlia, 2014)

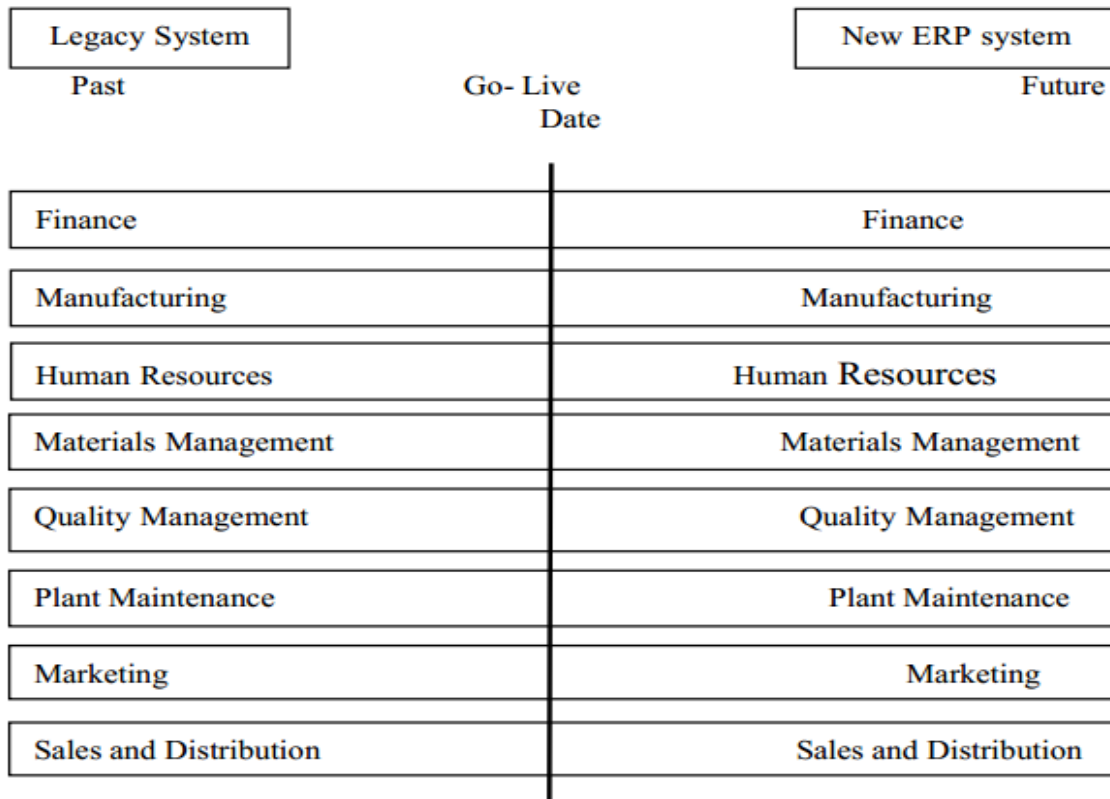


Figure 8 – Big Bang Transition Strategy (Source: Leon. A, 2014)

B. Phased

Independent ERP systems can be installed in each business unit over time to accommodate the adjustment periods needed for assimilation. (Hall, 2008); Implements one functional module at a time, in sequential order. (Leon, 2014)

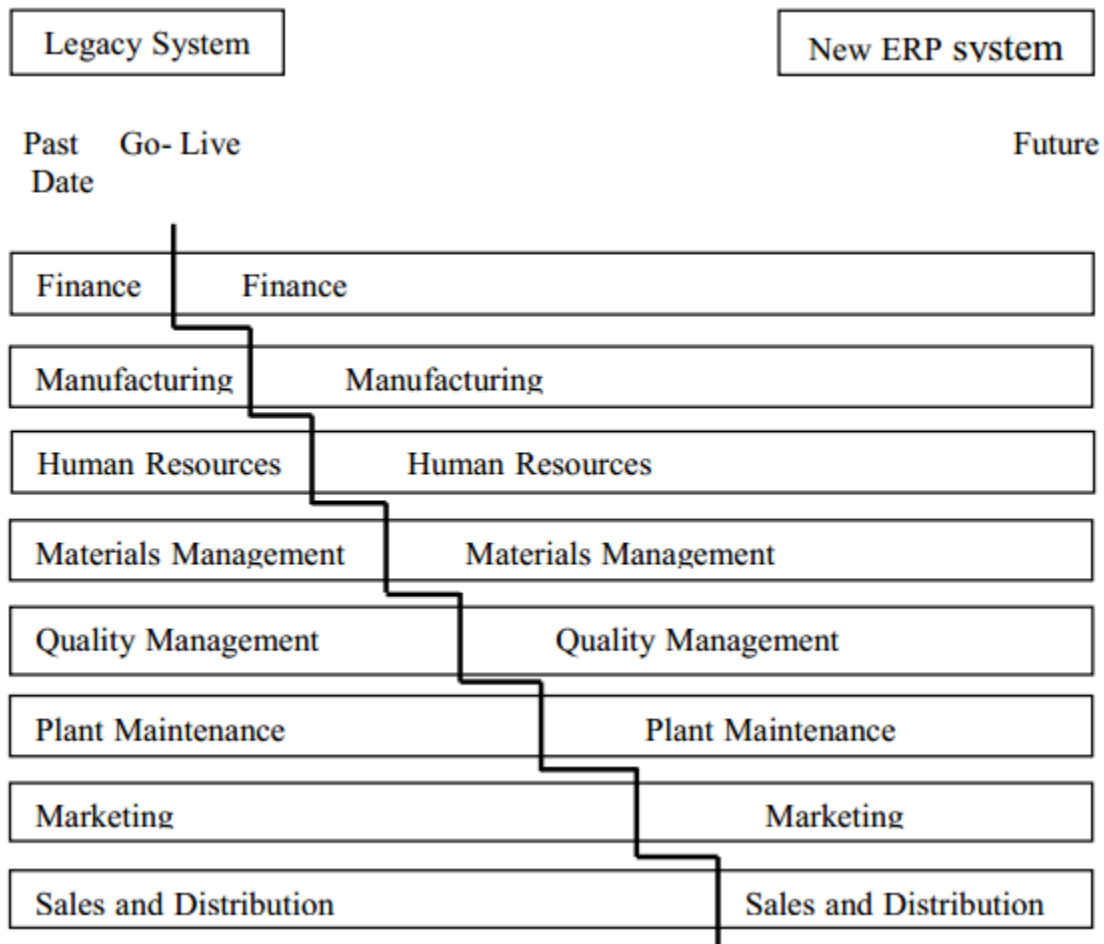


Figure 9 – Phased ERP Transition Strategy (Source: Leon. A, 2014)

C. Parallel

This approach keeps both the legacy system and the new ERP system active simultaneously for a length of time. (Leon, 2014)

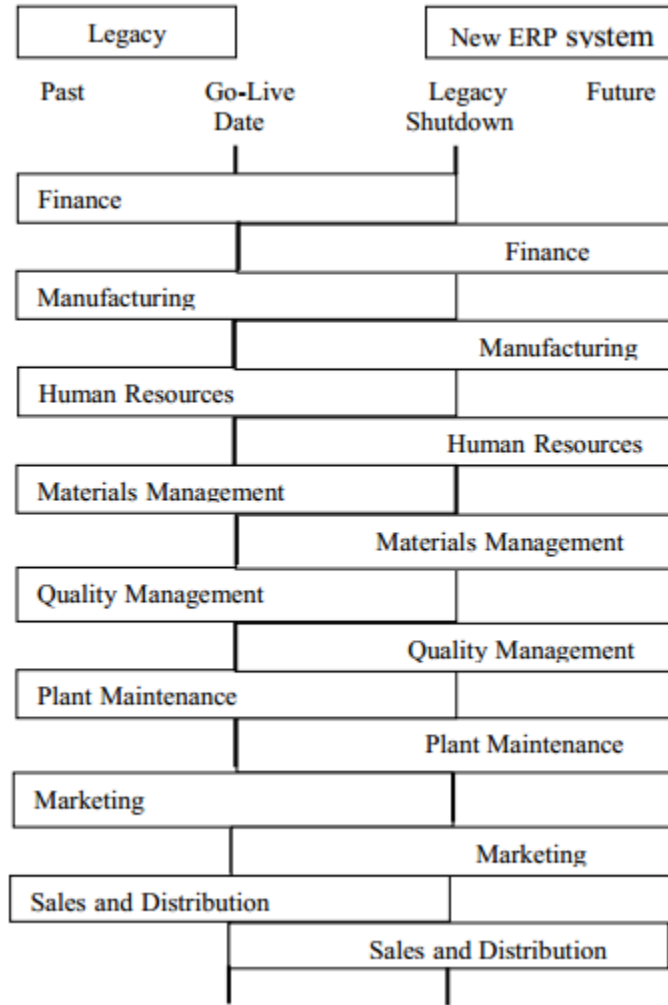


Figure 10 – Parallel ERP Transition Strategy (Source: Leon. A, 2014)

D. Hybrid

This is a combination of the process line, phasing, and parallel transition strategies. (Leon, 2014); This approach combines several different phasing approaches based on an organization's unique needs. (Panorama, 2019)

2.1.11 Post-Deployment of ERP Projects

Once ERP system is deployed, there are also significant tasks to be carried out at post-deployment stage to make sure that the transformation of the business environment remains sustainable. Most of the ERP system deployments even fail after having successful Go-Live event and neglect the post-deployment tasks simply because the organizations think that the project was done on Go-Live (Hall, 2008). Post implementation report needs to be generated after careful review of the ERP project to make sure that the system is being utilized by users as per their requirements (Romney & Steinbart, 2015). However, major tasks are still on hands after go-live that requires as much attention as the pre-go-live stage.

2.1.12 Current Trends of ERP Systems

ERP systems have been in the market at least for the last fifty years and have gone through many stages to get where they are now. Currently, most of the ERP systems are moving towards Cloud deployment option as most of the software development companies are converting their ERP systems from on-premise to cloud technology (Panorama, 2019). Some of the companies even have announced that they would require all of their client organizations to move to cloud in the coming years to stay update.

2.1.13 ERP Projects in Ethiopia

ERP system deployments in Ethiopia are fairly at young stage as very limited number of companies are deploying ERP system to modernize their working environment. Most of the business organizations are still using one-man small scale accounting packages, if not manual processes to generate their financial reports. In the last ten to fifteen years, some of the public companies like government owned development organizations (Ethiopian Airlines, Electric Power, Ethio-Telecom, and Shipping & Logistic Services) have moved to deploy the ERP system to modernize their business operations. Recently, Ethiopian Airlines deployed SAP ERP system, while

Ethiopian Shipping Lines, Commercial Bank of Ethiopia, Development Bank of Ethiopia have deployed Oracle ERP system. From private sector, Derba Cement, Habesha Brewery, Dangote Cement, Coca Cola, and LUNA Meat Export have deployed SAP system. Others like MOHA soft drinks, BGI Brewery, Heineken Brewery have deployed Microsoft ERP systems. Also, EBG, Nifasilk Paint, Juniper Glass, Allan Meat Export have deployed SAGE ERP systems.

2.2 Empirical Review

The researcher reviewed empirical studies done in the past related with ERP projects and their transition strategies at different organizations. Following are some of the reviewed literatures.

2.2.1 Ethiopian Airlines

A researcher named Elsa Tadele conducted a study on the post-implementation management framework of the SAP system at Ethiopian Airlines. In her research, Elsa indicated that Ethiopian Airlines used Big-Bang approach in deploying the SAP ERP system back in January 2013. In such approach, the airlines was able to go-live with three main modules including Financials, Logistics and Human Capital. Although, the theme of Elsa's study focused on post-implementation of the SAP system, the researcher was able address the specific objectives of this research under section 1.4, by demonstrating the chosen transition strategy of ERP system deployment at a such large scale company. The noticeable gap identified is whether mix of transition strategies were deployed while deploying the SAP ERP system.

2.2.2 Commercial Bank of Ethiopia

Several researchers conducted their study on the implementation of Tier I ERP system at CBE from different perspectives. The following are some of the studies;

- ✓ In studying the “factors affecting the effectiveness of ERP project at CBE”, Abel Hailemariam (2018) clearly indicated about the planning of the ERP implementation as it relates to transition strategies including Big Bang, Parallel and Phased approaches. The researcher showed that the ERP project at CBE had considered several types of transition strategies before kicking off the project.

- ✓ Daniel Getachew (2018) conducted a research about the “analysis of critical success factors affecting ERP project at CBE” in which he indicated different strategies such as big bang, phased, pilot and parallel.
- ✓ Foziya Ahmed (2017) conducted a research about factors affecting the implementation of ERP at CBE; in her research, Foziya focused on analyzing organizational, technological and individual factors without any consideration for the transition strategy of ERP implementation project at CBE.
- ✓ Nebiyou Solomon (2018) studied about the “practices and challenges of ERP project at CBE” in which he indicated about CBE’s choice of phased transition strategy by implementing only five modules to automate its business environments. The modules included were Finance, Procurement, Human Resource, Office Strategy and Enterprise data warehouse. Such strategy shows that CBE might add more modules in the future depending on its need as it relates to its digital transformation goals.
- ✓ Selamawit Nibret (2018) studied about factors affecting ERP project post implementation; however, while studying the factors affecting the ERP project, the researcher did not included transition strategies as factors of the ERP project.
- ✓ Tsedale Akale (2018) studied about “implementation challenges of ERP project of CBE”; in her study, Tsedale indirectly showed that the ERP project at CBE had followed phased approach by implementing a few modules including Finance, Human Resource, Supply Chain, Hyperion and Business Intelligence.

2.2.3 Ethio Telecom

Following are some of the studies conducted on the ERP project at Ethio Telecom with different perspectives.

- ✓ Enderas Addisse (2017) studied “assessment of ERP implementation project at Ethio Telecom” and identified around nine critical success factors including business plan, top management commitment, project champion, changes management, risk

management and post implementation evolution. While the survey questionnaire asked about the transition of the corporation from old to the new ERP, the study did not specifically address the transition strategies of the ERP project.

- ✓ Engidayehu Getachew (2014) conducted another assessment of ERP project at Ethio Telecom and indicated how the corporation implemented the ERP project using phased transition strategy (phase one, phase two etc...) to include more and more modules in subsequent years.
- ✓ Haron Alemseged (2018) studied about the “effect of project cost management on the overall project success at Ethio Telecom”. Similar to Engidayehu’s study (2014), Haron’s study also documented the phased approach as the selected transition strategy while deploying the ERP project at Ethio Telecom. Haron clearly indicated that the corporation had implemented twelve modules in the first phase and another eighteen modules in the second phase.

2.2.4 Ministry Of Finance

Perhaps, one of the largest ERP deployments projects in Ethiopia is the one deployed at Ministry of Finance (the then Ministry of Finance and Economic Development – MOFED), which took several years of implementation period before it gets to the budgeted government entities until a few years ago. The ERP project had followed multiple types of transition strategies including Pilot Program, Phase-by-Phase for functional modules and then roll out approach to make the ERP system available for several budget supported government entities in the country.

Even recently, Ministry Of Finance has announced that they are going to expand the ERP system to include more government entities while introducing their five-year strategic plan in March 2021. In the pilot program and subsequent roll out of functionalities, nine departments including Public Sector Budgeting, Cash Management, Accounts Payable, Fixed Assets, Accounts Receivable, General Ledger, Purchasing, Inventory and Payroll were included in the roll out project.

The above researches done at ET, CBE, Ethio-Telecom and MOFED addressed the specific objectives of this research under section 1.4; most of the studies indicated directly or indirectly the type of ERP transition strategies used by CBE. Ethiopian Airlines used Big-Bang, even though it did not cover the entire corporate to include in the ERP project, while the others used phased and pilot transition strategies. However, mix of strategies and suitability of chosen strategies on the overall ERP completion still need to be further studied.

2.3 Conceptual Framework

After critically reviewing the theoretical and empirical literatures, the researcher had developed the following Conceptual Framework in synthesizing the possible inclusion of different types of ERP strategies during implementation project.

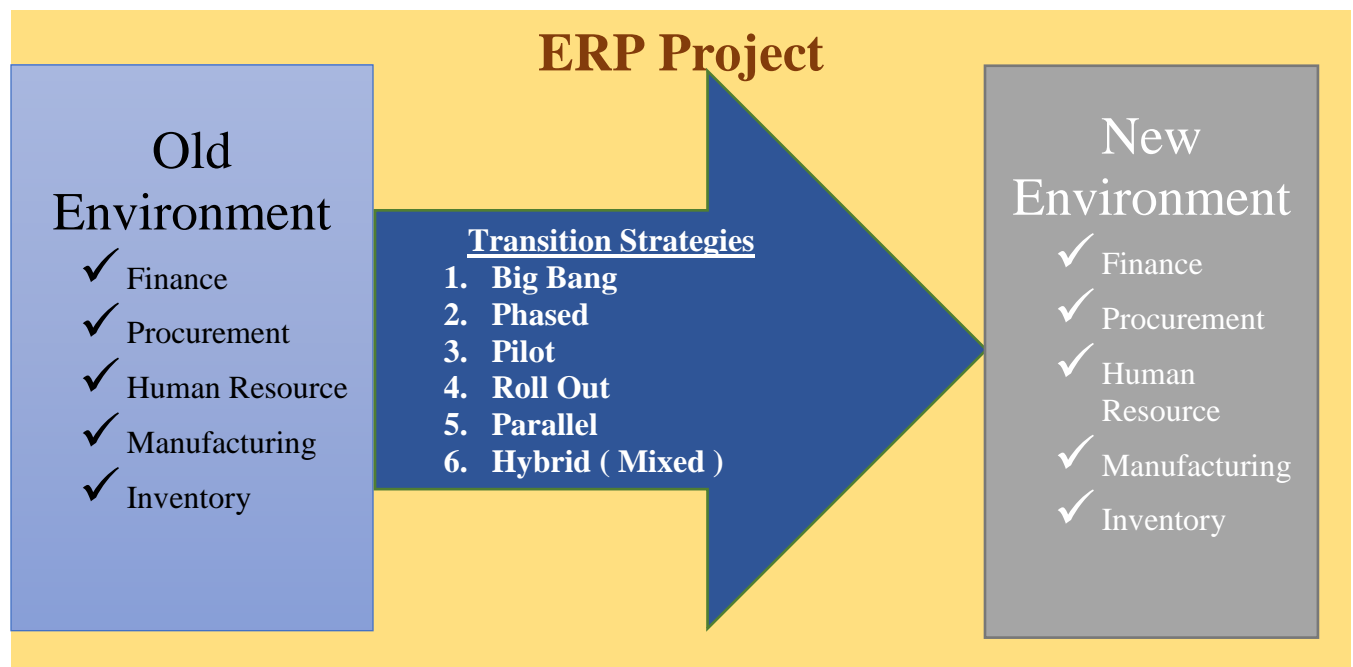


Figure 11 – Conceptual Framework (Source: Own Depiction)

The above framework indicates that any ERP project intends to bring change from the old environment to the new environment by going through a transition stage. Such transition can be achieved using different type of strategies including Big-Bang, Phased, Pilot, Roll-Out, Parallel or Hybrid (mixed). In line with the general and specific objective, the above framework is used as a visual representation of the transformation from old to new environments.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Research Design

Descriptive research method was used for this study. The descriptive research method is selected because it is the best to gain an accurate profile of events, persons, or situations. (Sunders, Lewis, & Thornhill, 2016). A combination of both qualitative and quantitative data collection methods enables the researcher to complement missing data from the quantitative tool, through qualitative data collection approach. The qualitative measurement helped to interpret ideas, which was gathered through interview and open-ended questions while the quantitative measurement method helped to interpret ideas, which was gathered through questionnaires and close-ended questions.

3.2 Population and Sampling Techniques

Industrial Parks Development Corporation (IPDC) has currently employed around eight hundred (800) employees throughout its Head Office and each industrial parks. Employees that have relation with the ERP project including steering committee members, core team members and end users at Head Office and branch industrial parks were included for this study; these employees include C-Level management, Division Heads, Department Heads and all IT Department employees. Accordingly, the target population are 55 employees, who are being considered for participation in this study of transition strategies about ERP project.

The researcher believed that each team member of the ERP project at Head Office and branch industrial parks must get the chance to participate in this study. Since the number of team members are less than 100 participants, this study uses census method to gather response from all members of the ERP project including end users about the transition strategy of the ERP project.

3.3 Source of Data and Methods of Data Collection

The study assessed several sources of the ERP project by utilizing both primary and secondary data.

3.3.1 Primary Data Source

All identified ERP team members at Head Office and branch industrial parks, who have been involved in the ERP project, were primary data sources for this study.

3.3.2 Secondary Data Source

For triangulation purpose, secondary data was collected from Magazines, New papers and other publications. Additionally, articles, guidelines, working papers and related policies were reviewed and analyzed as secondary data sources.

3.3.3 Data Collection Instruments

The aim of this research is to assess different types of transition strategies of ERP project at IPDC by collecting both qualitative and quantitative data to best describe existing phenomenon. Primary data has been collected via self-administered structured questionnaire. To enrich the primary data, secondary data (articles, journal, policy document, reports and etc.) shall be gathered and examined in line with the objective of the study.

3.3.4 Questionnaire

A structured questionnaire with both close-ended and open-ended questions were developed and distributed for fifty five respondents that were coherent with the research objectives. Different types of question such as Likert scale and choice were included in the data collection instrument. To foster the distribution, questionnaire filling and collection were administered with assistance from the researcher. Out of fifty-five, only forty-four respondents filled the questionnaire that resulted in around eighty percent response rate.

3.3.5 Semi-structured Interviews

To enrich the analysis, open interview questions on top of the structured questionnaire were used to facilitate Key Informants' Interview. As a result, qualitative data was collected through key informants' interview from four ERP team members that further enhanced the questionnaire to understand about transition strategies selected by IPDC.

3.4 Procedures of Data Collection

Structured and semi structured questionnaires were developed based on the literature review aligned with the research objectives. Questionnaires were printed and distributed by the researcher to the respondents to be self-administered. The questioner survey took several weeks during the ERP project period.

3.5 Method of Data Analysis

Generally, the collected data using questionnaire and key informant interview were verified, and cleaned for inconsistencies and missing values. The data collected using structured questionnaires was cleaned, verified, coded and entered into a computer using various methods. Additionally, qualitative data that was gathered through interview was segregated into themes to provide a framework for thematic analysis. Both techniques of data analysis has enabled the researcher to triangulate data validity and reliability.

Quantitative Data Analysis: Descriptive method frequency and percentage were adopted for analysis purpose and data was presented using tables.

Qualitative Data Analysis: outcome of the interview was described and analyzed in line with the findings of the primary data and existing literature.

3.6 Validity of the study

The researcher prepared data collection instruments based on the literature review section so that the responses would address the objectives of the study. To ensure the validity of the study, much discussion on instruments were made with advisor on the contents and their structure. Moreover, the researcher solicited further expert reviews on the instruments to address additional points.

3.7 Reliability of the study

The researcher prepared data collection instruments based on the literature review section so that the responses would address the objectives of the study. To ensure reliability, this study was prepared in such a way that similar findings could be achieved, should any other researcher replicate the study at Industrial Parks Development Corporation (IPDC). Based on the responses, the Cronbach's Alpha shows around seventy percent, which is closer to acceptable level of reliability test. With more respondents for similar studies, such test could indicate higher rate.

Cronbach's Alpha	N of Items
.663	18

Figure 12 – Cronbach’s Alpha (Source: Own Survey)

3.8 Ethical Considerations

The researcher believes that all ethical considerations have been considered during the study to make sure that all participants respond with their consent by clearly communicating from the start to the end of the study. In addition, all data, information, and proprietary access to the ERP project are kept confidential during and after completion of the study. As part of sharing the experience as indicated under significance of the study section, the final research report shall be shared with participating management members so that they can learn from the outcome of the study for future reference.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 General Background on ERP

Fifty-five questionnaire were distributed and only forty-four were returned for analysis, which resulted in around eighty percent of response rate. Under this chapter, findings of the research are presented. In the first part, results from the general background questionnaire are covered. Mainly included in the general background are data related with sex, age, department, duration of the ERP deployment, category, PMO establishment, ERP users' participation, previous ERP environment.

4.1.1 Respondents' Bio Data

Table 1: Respondents' Bio Data

Respondents		Frequency	Percent
Sex	Female	16	36.4
	Male	28	63.6
	Total	44	100
Age	21-30	4	9.1
	31-40	21	47.7
	41-50	15	34.1
	51-60	4	9.1
	Total	44	100
Department	Finance	10	22.7
	Human Resource	5	11.4
	Procurement	7	15.9
	Corporate Services	1	2.3
	Operations	18	40.9
	ICT	3	6.8
	Total	44	100

Source: Own Survey (2021)

As shown above, out of the total 44 respondents, around 37% are female while the remaining 63% are male. This indicates that most of the ERP users as well as major decision makers related with ERP transition strategies are male.

The age ground findings show that almost half of the respondents (47.7%) belong the age range between 31 and 40 years old; at the same time another one third of the respondents (34.1%) ranges between the ago of 41 and 50 years old. Overall, majority of the respondents are under fifty years old, which shows that the ERP users are young.

The above table shows that out of the total respondents, almost two fifth (40%) of them belong to the operations department, which oversees the industrial parks throughout the country. Since the ERP technology has been deployed all over the industrial parks in Ethiopia, the corporation expects more ERP users in those parks. Next to the operations, another one fifth (22 %) of the respondents belong to the Finance team, which represents mainly accounting professionals at Head Office. As the ERP mainly supports these departments, the respondents also reside in these departments in the corporation.

4.1.2 ERP Service Duration

Table 2: ERP Deployment Period

How long ago have you deployed an ERP System?"	Frequency	Percent	Valid Percent	Cumulative Percent
Less than six month ago	29	65.9	65.9	65.9
Less than one year ago	15	34.1	34.1	100.0
Total	44	100.0	100.0	

Source: Own Survey (2021)

The researcher asked the respondents about their understanding on the deployment period of the ERP system. Almost two third (66%) of the respondents believe that the ERP system was deployed just less than six months ago, while the remaining one third (33%) indicated that the ERP system has been deployed less than one year ago. It is understandable that those respondents who indicated the ERP system was deployed less than one year ago said so because the ERP project has been going on for over a year; but it only got to the level of actual usage just less than six months ago.

4.1.3 Category of ERP Product

Table 3: ERP Category

Which category represents your ERP product?	Frequency	Percent	Valid Percent	Cumulative Percent
Enterprise	30	68.2	68.2	68.2
Large	14	31.8	31.8	100.0
Total	44	100.0	100.0	

Source: Own Survey (2021)

The above table shows that almost 70% of the respondents believe that their ERP is categorized under Enterprise level, which shows the ERP handles over one billion birr of transactions over a period of year. The remaining 30% still believes that the ERP system is considered large as it can handle between one hundred million and one billion birr transactions.

Review of IPDC's establishment proclamation and current business activities showed that it is currently handling over 25 billion of birr assets with an annual turnover of close to one billion. This showed that respondents in fact understood their corporation's financial transaction volume both from total asset value as well as revenue side to determine their ERP product category.

ERP systems are categorized into Tiers based on factors such as target organization size, revenue, user and other factors (Panorama, 2019). Tier I with over \$750 million, Tier II with over \$250 million and less than \$750 million and the rest are included under Tier III. Accordingly, IPDC's ERP system – which is ORACLE FUSION Cloud belongs to Tier I ERP and its fits the operating environment of IPDC to handle such a large amount of assets and revenue generating operations throughout the corporation.

Similar types of government owned enterprises also use Tier I ERP systems; for instance, Ethiopian Airlines, Ethiopian Electric Utilities, Ethiopian Postal Services use Tier I ERP called SAP; while Ethio Telecom, Commercial Bank Of Ethiopia, Ethiopian Shipping Lines and Development Bank of Ethiopia use Tier I ERP from ORACLE.

4.1.4 Reason for ERP

Respondents were asked to point out the reason that made them to deploy ERP system. Possible responses included to improve operations, outgrown existing accounting system, regulatory requirements and owner's instructions.

Table 4: Reason for Having ERP

Which reason made you to deploy ERP ?	Frequency	Percent	Valid Percent	Cumulative Percent
Improve operation	34	77.3	77.3	77.3
Outgrown	10	22.7	22.7	100.0
Total	44	100.0	100.0	

Source: Own Survey (2021)

As indicated above, more than three fourth (77%) of respondents believe that the ERP system was needed to improve their operations. The rest of the respondents, which covers almost one fourth (23%) indicated that the ERP system was deployed because they have outgrown their current environment. In both cases – whether to improve operation or outgrown current environment, it showed that the respondents believe that the ERP system was much needed in their day to day operations. Such type of needed change also proves the justification to have modernized system to support day-to-day business activities in order to have efficient and effective productivity in the organization.

Further review of the terms of reference to acquire the ERP system by IPDC showed that the corporation mainly wanted to deploy ERP system to comply with the International Financial Reporting Standards (IFRS) proclamation # 814/2014. Even through the proclamation did not specifically required ERP, the burden it puts on the adopting corporations leaves no choice except to have modernized and Tier I level ERP system to process financial transactions and generate IFRS's compliant financial statements on time with reliable data.

4.1.5 ERP Project Management Office (PMO)

Project Management was one of the many critical success factors identified in ERP implementation project (Desalegn & Pettersson, 2018); hence, the researcher asked respondents on their understanding of project management office.

Table 5: ERP Project Management Office

During deployment of ERP, was a dedicated Project Management Office create?	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	44	100.0	100.0	100.0

Source: Own Survey (2021)

The above tables shows that the entire respondents indicated that the corporation has established ERP Project Management Office (PMO) during the deployment of the ERP system. It is a clear indication that the corporation has effectively communicated to the ERP users in the corporation that a dedicated ERP PMO was established to handle the deployment of the ERP system.

When it comes to establishing a dedicated PMO for ERP implementation, corporations must understand the balance between their employees' day to day work load and the extra effort needed from the new ERP system. The researcher believes that any Tier I and Tier II level ERP deployment project must be handled by a dedicated Project Management Office to realize the successful completion of the project. Properly scoped requirements, well planned implementation time, having a sound project charter, governance, assigned team members, budget allocation and unwavering management commitment would contribute to complete any ERP as planned with acceptable quality under a dedicated project management office.

In the future, should IPDC desires to expand or add more components to the ERP project, the same type of project management office structure could be replicated for successful implementation. Not only that, other government enterprises can also learn from similar type of project management structure in order to manage their ERP project at any level.

4.1.6 ERP PMO Participation

Respondents were asked about their participation in the project management office.

Table 6: ERP Project Role Per User

What capacity have you participated during the ERP project?	Frequency	Percent	Valid Percent	Cumulative Percent
Core Team FT	2	4.5	4.5	4.5
Core Team PT	1	2.3	2.3	6.8
Core Team Mixed	7	15.9	15.9	22.7
Steering Committee	3	6.8	6.8	29.5
End User	31	70.5	70.5	100.0
Total	44	100.0	100.0	

Source: Own Survey (2021)

Regarding the distribution of respondents on their role on the ERP system, 70% indicated that they are part of the End Users; while 16% showed that they are part of the ERP project as Core Team with mixed participation (part time and full time). Steering Committee participants also constitute around 7%; the remaining participants indicated that they are part of the Core Team. In conjunction with the establishment of the ERP PMO, it further proves that almost 30% of the respondents participated in the ERP project either as core team or steering committee.

Further discussion revealed that the project management office was mainly staffed by senior employees from each department to work as core team members (domain experts). Those employees were assigned to learn and teach other employees under their departments during the ERP project. Even after go-live of the ERP system, core team members are the focal persons to provide ongoing trainings and first line support to other ERP end users. Should the issue being raised goes beyond their capacity, they communicate either to IT staff or to the implementing company to get resolution.

Being lesson the researcher advocates from such type of project management structure is the capacity building of team members for sustainable ERP project outcome in the coming years. Knowledge multiplication is a very important aspect of any project since the team members would return back to their desks after completing the project.

4.1.7 Pre-ERP Environment

Understanding the existing environment before any ERP project starts is important to set expectations as well as project planning. Respondents were asked about their environment before using the ERP system as follows.

Table 7: Previous ERP Environment

Before deploying ERP, were you using manual or any computerized accounting system?	Frequency	Percent	Valid Percent	Cumulative Percent
Manual	18	40.9	40.9	40.9
Partially Manual	11	25.0	25.0	65.9
Computerized with Small Scale	15	34.1	34.1	100.0
Total	44	100.0	100.0	

Source: Own Survey (2021)

In response to previous ERP environment, 65% of the respondents indicated that they were using either manual or partial manual methods to conduct their day-to-day operations. The remaining 35% of respondents said that they have been using some level of computerized method with small scale to record transactions.

The above responses further proved that IPDC's employees had been using mostly manual based transaction processing and reporting with complex environment of such multi-billion birr corporation. In conjunction with the need for ERP system under Table 4, it shows that the employees needed the ERP system to replace the manual system to improve their day-to-day operations. Handling such large volume of transactions with manual way would definitely put much burden as the existing environment has outgrown the old environment.

Even using computerized system with small scale for such large corporation proves the need to have fully integrated ERP system to have single truth environment within the corporation by eliminating data redundancy and better utilization of resources.

4.2 Specific about ERP Transition Strategy

This part of the questionnaire addressed about specific understanding of ERP Transition Strategies used by the corporation. (Leon, 2014) said that there are different types of ERP transition strategies that can be deployed by any ERP implementing company.

4.2.1 ERP Transition Strategy

The researcher presented at least five types of transition strategies – Big Bang, Phased, Roll Out, Prototype, Pilot Program and Mix (Hybrid) for choice and respondents focused mainly on a few of the strategies to respond as shown below.

Table 8: ERP Transition Strategy

When you move from the old system (manual /computerized) environment to the new ERP environment, which type of ERP transition strategy did you use in your project?	Frequency	Percent	Valid Percent	Cumulative Percent
Phased	39	88.6	88.6	88.6
Mix	5	11.4	11.4	100.0
Total	44	100.0	100.0	

Source: Own Survey (2021)

Almost ninety (90%) of the respondents indicated that the corporation has used “Phased” type of ERP transition strategy in moving from the old environment to the new environment. As explained in the introduction part, the corporation has resorted to the “Phased” type of ERP transition strategy after failing to have a full-blown Big Bang transition strategy in the first round of attempt a few years ago. The understanding being reflected by respondents above clearly show that they fully concurs the approach of having limited number of functional departments in sequential way to get more modules in the future.

The remaining 10% believe that the corporation has followed mixed approach of transition strategies; follow up with some of the respondents indicated that mixed transition strategies were used because the ERP modules were first used at Head Office level and then rolled out to branch industrial parks in phases.

4.2.2 Who Selected the Strategy

To find out who selected the ERP transition strategy, the researcher asked respondents about their understanding as follows.

Table 9: ERP Strategy Decider

Based on your understanding, who proposed the selected transition strategy as indicated above?	Frequency	Percent	Valid Percent	Cumulative Percent
Project Sponsors	13	29.5	29.5	29.5
Top Management	30	68.2	68.2	97.7
Client PMO	1	2.3	2.3	100.0
Total	44	100.0	100.0	

Source: Own Survey (2021)

Regarding the decision on choosing the type of strategy being used by the corporation, an overwhelming 70% of the respondents believe that Top Management had decided on the type of transition strategy used in the ERP project. Still the remaining 30% indicated that the decision on the choice of transition strategy was done by project sponsors. Insignificant number of respondents believe that the decision on the type ERP transition was chosen by the Project Management Office.

Even though, the selection of any type of transition strategy lies on the technical understanding of IT team, eventually, it is the top management's direction to make the final choice as it applies to the corporation. Any decision, however, must be backed by in depth analysis of the existing and future environments, available resources, budget allocations and type of ERP software before reaching the final decision on the transition strategy. Exploring and exchanging experiences from other corporations' previous exposure on ERP project might be useful to avoid failures.

4.2.3 Factors for Strategy Selection

The researcher identified several factors that could be helpful in deciding the type of ERP transition strategy. Respondents were presented with the list as shown below.

Table 10: ERP Transition Selection Factors

Based on your understanding, What was the major factor that made the corporation to select the type of transition strategy in the above question?	Frequency	Percent	Valid Percent	Cumulative Percent
Type of Modules	13	29.5	29.5	29.5
Allocated Budget	24	54.5	54.5	84.1
Urgency to Deploy	6	13.6	13.6	97.7
Users Readiness	1	2.3	2.3	100.0
Total	44	100.0	100.0	

Source: Own Survey (2021)

Regarding the factors that led to the choice of transition strategy, just more than half of the respondents – 55% responded that the main factor for choosing the transition strategy being applied for the ERP project was due to “Allocated Budget”. As indicated in the introduction part, this concurred with the approach made by the corporation during the second round of bidding process after the first round of bidding process failed due to exorbitant price from the ERP vendors. Only limited number of modules were included in the ERP project because there was limited money allocated by project sponsors. The rest of respondents said that the “the type of modules” was the factor behind choosing the transition strategy.

4.2.4 Outcome of Project based on selected strategy

After selecting the transition strategy, the researcher wanted to understand the outcome of the project based on the selected strategy.

Table 11: ERP Completion based on Transition Strategy

Based on the type of transition type selected above, did the project complete as expected?	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	27	61.4	61.4	61.4
Still Ongoing	17	38.6	38.6	100.0
Total	44	100.0	100.0	

Source: Own Survey (2021)

The above table shows that 60% of the respondents believe that the ERP project was complete (go-live) based on the choice of ERP transition strategy. While the remaining respondents believe that the ERP project is “Still Ongoing”.

Further discussion with respondents indicated that some of them consider the ERP as complete during the go-live event, while others consider it complete once the old accounting system is no longer in use and fully replaced by the new ERP system. In IPDC’s case, the transition strategy was phase by phase; meaning even after go-live event, there could be more industrial parks still not joining the ERP system as it rolls out from head office. In addition, the parallel running of the old accounting system along with the new ERP system indicates that the new system could be refined or even replaced by another system if it fails to deliver as expected.

The researcher believes that the choice of the phase-by-phase transition strategy was a right decision to get to the ERP go-live event within short period given the complexity of IPDC’s working environment. While sixty percent of the respondents said the project is complete, the project is still on-going for additional months until IPDC fully moves to the new system and discontinue the old accounting system.

4.2.5 Suitability of selected ERP Strategy

The researcher attempted to find out if the selected ERP transition strategy was suitable for the corporation.

Table 12: ERP Transition Strategy Suitability

Based on your understanding, do you believe that the selected type of transition strategy suitable for the corporation?	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	29	65.9	65.9	65.9
To be determined	14	31.8	31.8	97.7
I don't Know	1	2.3	2.3	100.0
Total	44	100.0	100.0	

Source: Own Survey (2021)

Almost two third (66%) of the respondents said that they believe the selected ERP transition strategy, which is phased approach, was suitable for the ERP project; while the remaining respondents indicated that the suitability of the transition strategy shall be determined in the future.

Suitability of the transition strategy on the implementing company is crucial; it has to do with the ability of the corporation to properly handle the project without affecting other things during the project. Especially, suitability directly affects the three pillars of the ERP project – People, Process and Technology (Kay & Ovlia, 2014). Any corporation must truly understand that the choice of ERP transition strategy directly affects the employees, their organizational processes and the type of ERP system to be deployed. Hence, utmost care must be taken to make sure that such type of enterprise wide system changes must be accompanied by the right strategy for successful completion.

4.3 Overall Understanding on ERP Transition Strategy

Next to the general and specific questions about transition strategy, the researcher questioned the following very specific understandings related to transition strategy choice, suitability, mix, and overall completion the project. Also, the respondents fielded questions about the consideration of transition strategy

4.3.1 Related to Choice of ERP Transition Strategy

Table 13: Related to Choice of ERP Transition Strategy

Questions Related to Choice of ERP Transition Strategy		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	The corporation considered several types of transition strategies for the ERP Project	0	0	4	33	7
2	While selecting the transition strategy, the corporation evaluated advantages and disadvantages of each transition strategy	0	0	22	20	2
3	The decision on selected the transition strategy was made based on technical/functional consideration	0	0	11	31	2
4	The decision on selected the transition strategy was made based on managerial consideration	0	0	7	35	2
5	transition strategy	8	20	16	0	0

Source: Own Survey (2021)

The above table specifically addressed the choice of ERP transition strategy and how the corporation handled the selection of transition strategy for the project. Based on respondents understanding, more than ninety (91%) responded that the corporation had considered several types of transition strategies for the ERP project. Such a large percentage shows that the corporation had indeed paid significant consideration in selecting the Phased type of transition strategy in the second round of bidding process; as compared to the “Big Bang” in the first round. On the other hand, when asked about if the corporation had evaluated advantages and disadvantages of the transition strategies, nearly half (50%) of the respondents said that they agree in corporation’s effort in evaluating advantage and disadvantages before fixing on the selected transition strategy. At the same time, the other half (50%) said they were neutral; meaning that those respondents were not sure if the corporation had evaluated advantage and disadvantages

of the transition strategies. Additional way of understanding on the choice of transition strategy, the researcher asked respondents if the decision on the selected transition strategy was made based on technical / functional consideration. In this regard, nearly two third (75%) believed that the corporation had technically and functionally considered the transition strategy before settling on the phased approach.

Implementing an ERP system has more to do with changing the way an organization does business than it does with technology (Hall, 2008); the big bang method is the more ambitious and risky than of phased-in method (Hall, 2008). The findings from IPDC in which the corporation avoided big-bang approach in the first round and selected phased-in approached coincides with (Hall, 2008). Had IPDC went with the big bang approach, it would have faced risky implementation with its limited resources. (Monk & Wagner, 2013) documented the implication of having big-bang approach for one of the largest corporations in the world – Harshey Company – in which huge pieces of the system were implemented all at once. Companies rarely use big-bang approach because it is so risk; as a result Harshey Company lost share of its revenue due to the ERP problems from this poor implementation.

At last, the respondents were asked if the corporation had given no consideration in selecting the transition strategy. Responding to this question, almost two third (64%) of the respondents disagree/strongly disagree, while the remaining of 36% were neutral; meaning they were not sure if the corporation did not give consideration in choosing the transition strategy.

Following up with further interview, the researcher asked how the decision was reached on the selection of the ERP transition strategy. One of the members of the steering committee indicated that the current ERP transition strategy was mainly selected because of the budget limitations as part of the World Bank funding for the project. Initially, the funding was planned to include all modules of the ERP system that would have allowed the corporation to support its business operations using state-of-the-art system. However, the budget allocation had been revised subsequently that allowed only to accommodate a few modules. Also, the choice of those modules to go operational were decided to be from those departments which have monetary implications on the financial position of the corporation. This approach proved further that the corporation chose phased type of ERP transition strategy from the old environment to the new one.

The interview also identified that the selection of the ERP transition strategy to be phased type based on budget limitation concurs with response received from respondents under section 4.3.4 which asked about the consideration of ERP transition strategy on budget of the project. It is abundantly clear that the corporation had selected the “Phased” approach of transition strategy because of budget limitation. Overall, the respondents demonstrated that they understood the choice made on the transition strategy as it relates to the ERP project.

4.3.2 Related to Suitability of Selected ERP Transition Strategy

Table 14: Related to Suitability of Selected ERP Transition Strategy

Questions Related to Suitability of Selected ERP Transition Strategy		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
6	The Selected transition strategy was suitable for industry type in which the corporation operates in	0	0	7	30	7
7	The selected transition strategy was suitable for the project resources (human and financial) of the corporation	0	0	1	28	15
8	The selected transition strategy was suitable to have minimal disruption of the day to day operation during Go-Live	0	0	3	37	4
9	The selected transition strategy was suitable for the corporation as a whole	0	0	4	34	6

Source: Own Survey (2021)

Questions related to the suitability of the selected ERP transition strategy were addressed as shown in the above table. Almost 85% of respondents said that the transition strategy – Phased transition – has been suitable for the industry type, which is real estate development and rental business. It appears that the respondents believed the phased transition strategy is suitable for such type industrial parks developing corporation as it allows it to make available the ERP system and corresponding modules in phases.

A skeleton version of the software package can be implemented initially, and extra functionality can then be added gradually once the system is operating and the users are familiar with it (Shanks, B.Seddon, & P.Willcocks, 2003). Lack of suitability of the right transition strategy was reflected when the City of Tacoma, Washington attempted to implement SAP ERP with %50 Million using

big bang approach (Turner, Weickgenannt, & Copeland, 2017). Since the transition strategy was not suitable, the agency ended up facing difficulties in realizing the full fledged capacity of the ERP system and incurred additional cost.

In connection with the suitability of the transition strategy, nearly all respondents (97%) believed that the selected transition strategy was suitable for the project in utilizing its resources, which includes human and financial resources. Such understanding on utilization of resources as it relates to ERP transition strategy proves that it is very important in selecting the right transition strategy that fits the available financial and human resources in managing the project.

When it comes to disruption of day-to-day operations due to the selected ERP transition strategy, once again, significant number of respondents – 93% responded that the phased transition strategy was suitable to handle their day-to-day operations during the go-live. This indicates that the ERP users were comfortable in using the ERP system without much disruption as they transition from their old environment to the new one. At last, majority of the respondents – over 90% - said that the selected ERP transition strategy was suitable for the corporation as a whole.

ERP implementation project at Commercial Bank of Ethiopia as referenced in reports by (Hailemariam, 2018), (Getachew D. , 2018), (Ahmed, 2017) (SOLOMON, 2018) showed that CBE has chosen phased-in approach as suitable transition strategy to deploy its Oracle ERP.

4.3.3 Related to Mix (Combination) of ERP Transition Strategies

Table 15: Related to Mix (Combination) of ERP Transition Strategies

Questions Related to Mix (Combination) of ERP Transition Strategies		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
11	Mixing of different types of transition strategies was necessary for successful completion of the ERP project	21	19	3	1	0
12	Mixing of different types of transition strategies was necessary for proper utilization of the project resources	5	23	13	3	0

Source: Own Survey (2021)

Related with mixing (hybrid) of ERP transition strategy, almost 91% of respondents said that it was not necessary to mix different types of transition strategies for successful completion of the ERP project. The remaining respondents – around 9 % said that it was necessary to mix transition transitions; this understanding is also in line with the type of transitions strategies selected under section 4.2.1 ERP Transition Strategy above, which showed that around 10% of respondents indicated mix of transition strategies during the ERP project. However, when respondents were asked about proper utilization of project resources as it relates to mix of transition strategies, almost one third (31%) indicated that they were not sure (neutral), while the rest – 69% - said they disagree with necessity of mixing of different types of transition strategies for proper utilization of project resources.

Around twenty-five small and medium enterprises companies were surveyed in Slovenia about their ERP implementation transition strategy (Cruz-Cunha, 2010); of which 40 % said they used big-bang, whole 16 % used phased approach. Also, another 16 % said they used hybrid (mix) transition strategy. Such type of trends in using hybrid strategies during ERP projects suitable as long as it practically applies to the operating environment of the organization and utilizes resources.

Interviews with some of the Core Team members, who included IT Staff also identified potential point with regard to mixing different types of ERP transition strategies. It was indicated that once the ERP project had started with the selected “Phased “ approach and a few months into the project implementation period, the project office was given instruction to top management to finalize the project within four month time; instead of six month. The hybrid strategy is a combination of the phasing, parallel and modular strategies (Leon, 2014). Hybrid strategies tend to evolve into the needed agreement as ERP team members study and consider information (Khanna & Arneja, 2012). (Leon, 2014).

Quickly, the project office devised a plan to bring only the Head Office departments – Finance, Human Resource and Procurement – to become the first departments to start using the new ERP system. Effectively, the transition strategy got to mixed type – Phased and Roll Out – as it was necessary to focus on head office at first and then roll out to branch industrial parks in subsequent

months. Many implementations use hybrid strategies because they are flexible in adapting to the specific needs of the situation (Leon, 2014). Clearly, such type of understanding on mixing the ERP transition strategies remained within the project office; hence, it led to the fact that significant number of respondents believed only about phased approach on the ERP project.

During the interview, the researcher also come to understand that further refinement of the mix of ERP transition strategies within the Finance Department , which consisted five major modules including General Ledger, Account Receivable, Accounts Payables, Cash Management and Fixed Asset. Once the ERP project approached the go-live event, it became clear that the financial data to be uploaded in the new ERP system was not fully ready; hence, the project office, once again, made decision on rolling out only a few of the Financial modules instead of all modules. As (Leon, 2014) said, by using a hybrid strategy, organizations can specifically tune implementations for their needs. Such profound understanding of mixing strategies was necessary on the usage of the new ERP system in order to make the system available for end users at different time and levels.

4.3.4 Related to Selected ERP Transition Strategy with Scope, Time, Budget and Quality of the ERP Project

Table 16: Related to Selected ERP Transition Strategy with Scope, Time, Budget and Quality of the ERP Project

Questions Related to Selected ERP Transition Strategy with Scope, Time, Budget and Quality of the ERP		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
16	The selected transition strategy considered the scope of the ERP project	0	0	4	32	8
17	The selected transition strategy considered the budget of the ERP project	0	0	4	21	19
18	The selected transition strategy considered the time of the ERP project	0	8	7	26	3
19	The selected transition strategy considered the quality of the ERP project	1	7	13	22	1

Source: Own Survey (2021)

This section of questions briefly addressed if respondents had understanding on the consideration of scope, time, budget and quality while choosing the ERP transition strategy for the corporation. In the nutshell, significant number of respondents indicated that ERP transition strategy considered

the scope, budget and time of the project. Especially, nearly 91% of respondents had indicated that the selected ERP strategy considered the scope of the ERP project as the corporation downsized from all module project to only selected modules during the second round of bidding process. Similarly, the same percentage of respondents showed that the transition strategy considered the budget of the project; which concurs the decision taken by the corporation in cancelling the first round of bid process due to exorbitant pricing from ERP vendors. Regarding time of the project, nearly two third (66%) mentioned that they believed the selected transition strategy considered the project duration as the corporation needed the system to go operational within short period of time.

The researcher believes that the type of transition strategy could be foundation for major project pillars – scope, budget, and time. In addition, quality of the project could depend on the type of strategy as it affects the overall delivery of the project within the given scope, budget and time.

4.3.5 Related to Selected ERP Transition Strategy with overall completion of ERP Project

Table 17: Related to Selected ERP Transition Strategy with overall completion of ERP Project

Questions Related to Selected ERP Transition Strategy with over all completion of the ERP Project		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
21	It was necessary to change transition strategy during the ERP implemenation project.	0	7	26	11	0
22	The Selected transition strategy has contributed for successful completion of the ERP project	0	0	4	31	9
23	The selected transition strategy was the main reason for failure of the ERP project	10	21	13	0	0

Source: Own Survey (2021)

The last part of the questions focused on the selected ERP transition strategy as it relates to the overall completion of the ERP project. Over 92% of the respondents indicated that it was not necessary or they were not sure about change of transition strategy during the ERP project, while around 8% believe that the transition strategy was required to change during the project. Such understanding of change in transition strategy could rise from the approach by project management office as they near the go-live of the ERP system.

Regarding if the selected transition strategy had contributed for successful completion of the ERP project, almost all of the respondents (over 90%) agreed that the transition strategy contributed for successful completion of the ERP project.

At last, respondents were asked if they thought the ERP project had failed due to the selected transition strategy. Clearly indicated in their response, none of the respondents believed that the project failed due to the selected transition strategy.

Further discussions with several management, core team and senior ERP users revealed that the chosen type of ERP transition strategy – phased approached – was the right choice as it made it easier for the ERP project to run effectively and efficiently. Some of them indicated that if the corporation had chosen the first type of transition strategy – Big Bang – instead of Phased strategy that the project would have likely failed because of the operational complexity and limitation of resources including financial and human. Some of the users in the Finance Department also expressed their appreciation for the corporation's choice of Phased type of transition strategy because it made it for them to absorb the new ERP system piece by piece without overburdening their day-to-day work.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Major Findings

As ERP projects are part of digital transformation journeys, transitioning from old environment to a new one is always big part of the project. Based on the findings under chapter 4 above, following are summary of major findings for each research question listed under section 1.3.

✓ **What are the different types of transition strategies applied while deploying ERP systems?**

IPDC has chosen the most applicable ERP transitioning strategy, which is Phased strategy for implementing only a few modules of the ERP product and implement it corporation wide. Not only that, given the challenges faced by the ERP project management office, there was also a mix of transition strategy on top of the chosen phased approach; it was necessary to have Roll Out transition strategy along with Phased transition strategy.

✓ **Was the selected ERP transition strategy suitable for IPDC?**

Respondents also clearly indicated that the chosen ERP transition strategy was suitable for the corporation as well as suitable in managing its limited project resources in order to become successful. At last, the corporation was successful in going live with the new system with phased transition strategy with a slight mix of roll out approach within the given scope, time, budget and quality.

✓ **Can any of the transition strategies be combined with one another to have successful projects?**

Given the challenges faced by the ERP project management office, there was mix of transition strategy on top of the chosen phased approach; it was necessary to have Roll Out transition strategy along with Phased transition strategy.

5.2 Conclusions

It is recommendable for IPDC to have started the digital transformation journey by kicking of the ERP project. Since the corporation has significant impact on the overall economy in the country, it was necessary to equip itself with state-of-the-art technology to modernize its operational activities at head office and each industrial parks. It is also highly recommendable for the corporation to have selected the “Phased” transitioning strategy to move away from the old, manual and inefficient environment to the new one with highly automated and capable environment. The researcher concluded as follows in line with the findings under section 5.1.

- ✓ Addressing the first research question, this study identified several types of transition strategies that could be applied during any ERP project, which included big-bang, phased in, parallel, roll out and hybrid strategies.
- ✓ At the highest level, IPDC did in fact mainly selected phased approach to deploy the Oracle ERP system, which was identified as the most suitable strategy based on the availability of financial budget and human resources.
- ✓ Mixing of strategies was also addressed by the project management office as the ERP project approached to go-live event; head office went live in the first round and then other business units within IPDC subsequently went live. Such mini-approached proved that it was necessary to mix more than one transition strategy during the ERP implementation period.

Given the importance of the ERP project, it was informative decision by the corporation’s management to have established a dedicated Project Management Office (PMO) to carry out the ERP implementation project. Such understanding on managing IT supported projects with dedicated project office would likely increase the success of the project and see the expected results within the corporation in the given time and budget.

Respondents’ participation on the ERP project was highly appreciated; their level of understanding on the ongoing ERP project as well as their future expectations to include more modules using phased type of transition strategy is properly placed within the corporation’s vision to become one of the leading real estate developers in the near future.

5.4 Recommendations

Changing any working environment to the new one, especially with the support of advanced technological solution always present its challenges for any organization. Implementation of ERP system is part of the changing process by transforming from the old environment to the new one. Hence, it is critically important in the approach to change while considering the overall environment of the corporation.

Based on the responses from the questionnaire and additional interviews, as documented above, the researcher would recommend the following;

IPDC has most of the transaction recordings at Head Office level, while each industrial park has its own record keeping and reporting. Instead of including all industrial parks in the initial part of the ERP project, the researcher recommends to follow “Pilot Program” type of transition strategy so that the new system can be fully configured at Head Office and one selected Industrial Park. Once the system is cleared for successful deployment, it can be rolled out to other industrial parks throughout the country to bring them onboard on the new system.

- ❖ IPDC implemented the new ERP system at three main departments - Finance, Human Resource and Procurement. Since, the major part of any ERP system is the Finance department, the researcher would recommend to implement the core ERP system at Finance department in the initial phase of the project and then include more and more departments subsequently. Such approach is still followed “Phased” type of transition strategy; however, the number of modules within the initial project could be limited to only one department, in this case, Finance department so that the ERP users in the Finance section could become more effective and efficient in their day to day handling of transactions. Once the finance team is capable, then more modules can be added and integrated with the finance module as deemed as necessary.

In general, for any similar type of corporation with head office and branch structure, the researcher highly recommends to follow phased approach with mixed roll out transition strategy to become successful in the implementation of ERP project.

Future Study Recommendations

The researcher believes that the field of project management on ERP projects still needs further studies to contribute for successful completion of projects. Based on the findings of this study, several related studies can be conducted by other researchers; following are some suggestions to further the studies.

- Impact of transition strategies on ERP projects
- Impact of transition strategies on scope, time, budget and quality of ERP projects
- Contribution of project management structure on ERP implementation projects

Especially, the “ Impact of transition strategies on Scope, Time , Budget and Quality of ERP projects” can be further studied with inferential statistics to find out the impact of a strategy on the core of project management. Potential hypothesis to consider are listed below.

- Hypothesis 1. ERP transition strategy affects significantly and positively on successful completion of ERP projects
- Hypothesis 2. ERP transition strategy has significant impact on allocation of project budget.
- Hypothesis 3. ERP transition strategy has significant impact on project duration.
- Hypothesis 4. ERP transition strategy has significant impact on scope of project.

REFERENCES

- Adade-Boafo, A. (2018). *Successful Strategies for Implementing an Enterprise Resource Planning System*. Walden: Walden University.
- ADDISSE, E. (2017). *Assessment of Enterprise Resources Planning (ERP) Implementation: The Case of Ethio Telecom*.
- Ahmed, F. (2017). *Factors affecting the implementation of enterprise factors affecting the implementation of enterprise* .
- Alemseged, h. (2018). *The effect of project cost management practices on the overall project success: case study of enterprise resource planning project implementation in ethio telecom*.
- Asrat, k. (2015). *The challenges and current status of erp implementation: the case of mugher and derba cement industries*.
- Boczko, T. (2007). *Corporate Accounting Information Systems*. Essex: Prentice Hall.
- Chhabra, S., & Kumar, M. (2012). *Strategic Enterprise Resource Planning Models for E-Government: Applications and Methodologies*. Hershey: IGI Global.
- Cruz-Cunha, M. M. (2010). *Enterprise Information Systems for Business Integration in SMEs: Technological, Organizational, and Social Dimensions*. New York: Business Science Reference.
- Cuppen, J. (2016). *Enterprise Resource Planning systems and the Effects on Management Control*. Radbound University.
- Desalegn, J., & Pettersson, A. (2018). *Investigation of Critical success factors for ERP implementation - A User Perspective*. Jönköping: Jonkoping University.
- Elaine, H. (2009). *Strategic Project Risk Appraisal and Management*. Surrey: GOWER.
- Elbardan, H., & Rashwan, A. O. (2017). *Enterprise Resource Planning, Corporate Governance and Internal Auditing - An Institutional Perspective*. Cham: Palgrave MacMillan.
- Fernandez, D., Zainol, Z., & Ahmad, H. (2016). The impacts of ERP Systems on Public Sector Organizations. *Procedia Computer Science*, 31-36.
- G.rufael, T. (2007). *Design of Enterprise Resource Planning (ERP) Frame work and its implementation (With special reference to Gafat Engineering Factory)*.
- Garg, V. K., & Venkitakrishnan, N. (2004). *Enterprise Resource Planning - Concepts and Practice*. New Delhi: Prentice-Hall of India Private Limited.

- Gartner. (2020). *ERP Report June 2021*.
- GEBREMEDHIN, S. (2017). *Assesement of erp implementation: the case of heineken breweries s.c ethiopia*.
- Getachew, D. (2018). *Analysis of Critical Success Factors affecting Enterprise Resource Planning (ERP) Project Implementation: the case of Commercial Bank of Ethiopia*.
- Getachew, E. (2014). *Assessment of Enterprise Resources Planning (ERP) Implementation: The case of ethio telecom*.
- GIRMA, E. (2019). *The role of information communication technology adoption on supply chain performance of the ethiopian shipping and logistics services enterprises*.
- Group, P. C. (2020). *2020 Top ERP Vendors*.
- H/GIORGIS, T. A. (2018). *Implementation Challenges of ERP Project a Case of Commercial Bank of Ethiopia*.
- Hailemariam, A. (2018). *Factors Affecting The Effectiveness Of Enterprise Resource Planning (ERP) Project The Case Of Commercial Bank Of Ethiopia*.
- Hall, J. A. (2008). *Accounting Information Systems*. Mason: Cengage Learning.
- Jessy, N., Reddy, B. S., & Samuel, A. A. (2011). A Framework for ERP System Implementation: Socio - Technical Change Management Model Perspective. *International Journal of Business Derivatives*, 8-11.
- K.Ganesh, Mohapatra, S., Anbuudayasankar, S., & Sivakumar, P. (2014). *Enterprise Resource Planning - Fundamentals of Design and Implementation*. Switzerland: Springer International Publishing.
- Kay, D., & Ovlia, A. (2014). *Accounting Information Systems - The Crossroads of Accounting & IT*. Upper Saddle River: Pearson.
- Khanna, K., & Arneja, G. (2012). Choosing an Appropriate ERP Implemenation Strategy. *IOSR Journal Of Engineering*, 478-483.
- Kumar, R. (2011). *Research Methodology*. London: SAGE.
- Leon, A. (2014). *Enterprise Resource Planning*. New Delhi: McGraw Hill Education (India) Private Limited.
- Madkan, P. (2014). Empirical Study of ERP Implementation Strategies-Filling Gaps between the Success and Failure of ERP Implementation Process. *International Journal of Information & Computation Technology*, 633-642.

- Mancini, D., Dameri, R. P., & Bonollo, E. (2016). *Strengthening Information and Control Systems - The Synergy Between Information Technology and Accounting Models*. New York: Springer.
- Mancini, D., Vaassen, E. H., & Dameri, R. P. (2013). *Accounting Informaiton Systems for Decision Making*. Velag Berlin Heidelberg: Springer.
- Markus, L. M., Tanis, C., & Fenema, P. C. (2000). *Multisite ERP Implemenations*.
- Monk, E. F., & Wagner, B. J. (2013). *Concepts in Enterprise Resource Planning*. Boston, USA: Course Technology, Cengage Learning.
- NIBRET, S. (2018). *Factors Affecting Enterprise Resource Planning Project Post Implementation Success: The Case of Commercial Bank of Ethiopia*.
- Panorama. (2019). *2019 ERP Report*. Panorama Consulting.
- Romney, M. B., & Steinbart, P. J. (2015). *Accounting Information Systems*. Pearson.
- Samuel, A., Belachew, M., & Kifle, M. (n.d.). *ERP Implementation Framework: The Case of Ethiopia*.
- Shanks, G., B.Seddon, P., & P.Willcocks, L. (2003). *Second-Wave Enterprise Resource Planning Systems*. New York: Cambridge University Press.
- Simkin, M. G., Rose, J. M., & Norman, C. S. (2012). *CORE CONCEPTS OF - Accounting Information Systems*. Jefferson City: John Wiley & Sons. Inc.
- SOLOMON, N. (2018). *The Practices And Challenges Of Enterprise Resource Planning Project Implementation Of Commercial Bank Of Ethiopia*.
- Sunders, M., Lewis, P., & Thornhill, A. (2016). *Research Methods for Business Students*. Essex: Pearson.
- Tadele, E. (2015). *ERP Post-Implementation Management Framework: The case of Ethiopian Airlines*. Addis Ababa, Ethiopia.
- TOLLA, B. (2017). *Assessment on the practice and challenges of enterprise resource planning (erp) implementation the case of africa union commission*.
- Turner, L., Weickgenannt, A., & Copeland, M. K. (2017). *Accounting Information Systems - Controls and Processes*. USA: Wiley.
- W/Mariam, N. (2017). *Assessment of erp software utilization in ethiopia construction design and supervision works corporation*.

ANNEXES

SURVEY QUESTIONNAIRE

St. Mary's University MA in Project Management questioner on “ Assessment of ERP Transition Strategies at Industrial Parks Development Corporation”

Dear Respondents;

I am a post graduate (MA degree) student at **St. Mary's University** in the field of Project Management. In partial fulfillment of the requirement for obtaining **Master's Degree in Project Management**; I am doing a research on **Assessing Transition Strategies on Implementation of ERP Project at Industrial Parks Development Corporation (IPDC)”**

In this endeavor, I have requested permission from IPDC and got the attached cooperation letter for your participation. Your co-operation is sought for the compilation of this questionnaire which is part of the survey. Your willingness to complete the questionnaire will be much appreciated, as the information thus obtained will assist the researcher to assess the transition strategies that have been deployed by the IPDC during the ERP project.

The questioner has been prepared in such a way that it will require the minimum of time to complete and responses to the various questions will be decisive for the eventual outcome of the research.

Thank you in advance for your participation and time.

Fekre Tadegagne Abera

Instruction for completion

Please go through all the questions before attempting to complete the questionnaire.

- Please remember that you simply answer the questions based on your current knowledge and/or experience.
- Please complete the questionnaire without discussing it with other staff.
- Put a tick (√) mark on the appropriate response to each of the question.
- All information will be treated as strictly confidential.

Part I - Demographic Characteristics of Respondents and General Background

Gender	
Male	
Female	
Age	
21-30	
31-40	
41-50	
51-60	
Above 60	
Department	
Finance	
Human Resource	
Procurement	
Corporate Services	
Operations	
CEO	
Other	

Part II - General about Enterprise Resource Planning (ERP)	
How long ago have you deployed an ERP System ?	
Less than six month ago	
Less than one year ago	
Over a year ago	
Over five years ago	
Over ten year ago	
Which category represents your ERP product ?	
Enterprise (more than one billion birr)	
Large (more than one hundred million and less than one billion birr)	
Medium (between ten million and hundred million birr)	
Small (less than ten million birr)	
Which reason made you to deploy ERP ?	
To improve operational effectiveness and efficiency	
Outgrown existing accounting system	
Regulatory requirements	
Owners' Instructions	
Others...	
During deployment of ERP, was a dedicated Project Management Office create ?	
Yes	
No	
If yes to above question, at what capacity have you participate during the ERP project?	
Core Team - Full Time	
Core Team - Part Time	
Core Team - Mixed (full time and part time depending on the need)	
Steering Committee	
Sponsor	
End User	
Before deploying ERP, were you using manual or any computerized accounting system ?	
Manual	
Partially Manual	
Computerized System with Small Scale	
If you were using computerized system, was it centrally hosted or just on single computer ?	
Central Server	
Single Computer	

Part III - Specific About Transition Strategies	
When you move from the old system (manual /computerized) environment to the new ERP environment, which type of ERP transition strategy did you use in your project?	
Big Bang (all functional modules go live at once)	
Phased (functional modules go-live one after the other sequentially)	
Roll Out (all functional modules deployed at head office first, then roll out to branches later on)	
Prototype (sample ERP deployment)	
Pilot Program (deploy ERP at selected location for testing of outcome)	
Mix of any of the above strategies	
Based on your understanding, who proposed the selected transition strategy as indicated above?	
Project Sponsors	
Top Management	
Client ERP Project Management Office	
ERP Implementing Vendor	
Individual Employee	
Others...	
Based on you understanding, What was the major factor that made the corporation to select the type of transition strategy in the above question.	
Type of Modules	
Allocated Budget	
Urgency to deploy the system	
Software type	
Users Readiness	
Other factors...	
Was there any selection criteria used to determine the type of transition strategy before starting the project?	
Yes	
No	
I don't know	
Based on the type of transition type selected above, did the project complete as expected?	
Yes	
No	
Still ongoing	
Failed without completion	
Based on your understanding, do you believe that the selected type of transition strategy suitable for the corporation?	
Yes	
No	
To be determined in the future	
I don't know	

S/N	Statements	Scale				
		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Questions Related to Choice of ERP Transition Strategy						
1	The corporation considered several types of transition strategies for the ERP Project					
2	While selecting the transition strategy, the corporation evaluated advantages and disadvantages of each transition strategy					
3	The decision on selected the transition strategy was made based on technical/functional consideration					
4	The decision on selected the transition strategy was made based on managerial consideration					
5	No consideration was given on selection the transition strategy					
Questions Related to Suitability of Selected ERP Transition						
6	The Selected transition strategy was suitable for industry type in which the corporation operates in					
7	The selected transition strategy was suitable for the project resources (human and financial) of the corporation					
8	The selected transition strategy was suitable to have minimal disruption of the day to day operation during Go-Live					
9	The selected transition strategy was suitable for the corporation as a whole					
Questions Related to Mix (Combination) of ERP Transition Strategies						
11	Mixing of different types of transition strategies was necessary for successful completion of the ERP project					
12	Mixing of different types of transition strategies was necessary for proper utilization of the project resources					
Questions Related to Selected ERP Transition Strategy with Scope, Time, Budget and Quality of the ERP Project						
16	The selected transition strategy considered the scope of the ERP project					
17	The selected transition strategy considered the budget of the ERP project					
18	The selected transition strategy considered the time of the ERP project					
19	The selected transition strategy considered the quality of the ERP project					
Questions Related to Selected ERP Transition Strategy with over all completion of the ERP Project						
21	It was necessary to change transition strategy during the ERP implementation project.					
22	The Selected transition strategy has contributed for successful completion of the ERP project					
23	The selected transition strategy was the main reason for failure of the ERP project					