



ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF MANAGEMENT
EXECUTIVE MBA PROGRAM

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Effectiveness of Business Process automation & Implementation
Assessment: The case of ethio telecom

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A THESIS SUBMITTED TO ADDIS ABABA UNIVERSITY, COLLEGE OF BUSINESS &
ECONOMICS, DEPARTMENT OF MANAGEMENT, IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF MASTERS IN EXECUTIVE BUSINESS
MANAGEMENT (EMBA).

June, 2021

Addis Ababa

ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF MANAGEMENT
EXECUTIVE MBA PROGRAM

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I Taye Mesfin declare that this thesis titled “Effectiveness of Business Process automation & Implementation Assessment: The case of ethio telecom” has been carried out by me under the guidance and supervision of my advisor Dr. Asres Abitie

I am submitting my original thesis work which has not been submitted for the award of any degree or diploma to any university or institution.

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List of Acronym

<i>BP</i>	<i>Business process</i>
<i>BPMS</i>	<i>Business process Management system</i>
<i>EPA</i>	<i>Employee Performance Appraisal</i>
<i>ETA</i>	<i>Ethiopian Telecommunications Authority</i>
<i>ETC</i>	<i>Ethiopian Telecommunications Corporation</i>
<i>eTOM</i>	<i>Enhanced telecom operation map</i>
<i>ETS</i>	<i>Ethiopian Telecommunications Services</i>
<i>HRM</i>	<i>Human Resource Management</i>
<i>IBTE</i>	<i>Imperial Board of Telecommunications of Ethiopia</i>
<i>ITIL</i>	<i>Information technology Infrastructure Library</i>
<i>ITU</i>	<i>International telecommunication union</i>
<i>RBV</i>	<i>Resource-Based View</i>
<i>SPSS</i>	<i>Statistical Package for Social Science</i>
<i>VAS</i>	<i>Value-Added Services</i>

Abstract

With the growing complex telecommunication services provision in modern organizations effectiveness of business process automation & implementation is a vital and critical activity of an organization. The main objective of this study is to identify the effectiveness of business process automation and implementation assessment in functional areas which are called divisions at ethio telecom. A formal theoretical framework is designed based on the dependent and independent variables. After this research at the company and division level, it will figure out what is the reason and gaps for business process implementation, and its automation assessment. Methodology of the study is using primary and secondary data which directly distrusted questionnaire and asked for the organization managements by using stratified sampling methods for the category of strata were Directors & managers, supervisors and selected employees. The major findings of the study were lack of awareness in the implementation of effective business processes, lack of categorization of business process into a core, critical and non-critical to help implements focus and prioritize. Unable to get the correct system/tools for the better implementation of the business process. Lack of poor follow-up and support from the management at all levels and lack of giving training on the policy strategy and business processes plan problems, alignment business process implementation not fully done.

Keyword: - Effectiveness of Business process automation & implementation, Level of awareness on company business process, Support from management, and Business process improvement.

CHAPTER ONE

INTRODUCTION

1. Background of the study

In today's competitive market awareness of effective business processes, automation & implementation are the most important elements of organizations and it is a new management paradigm. ethio telecom functional area called divisions should be no longer viewed as a collection of functional areas, but as a combination of highly integrated and linked via business processes & automation. In addition, business processes are now viewed as an asset requiring investment and development as they mature. The business process and implementations are becoming very important for the better achievement and success of organizations like ethio telecom.

Organizations need to undergo radical changes in the way they work as steady products and services improvement is not sufficient to survive in the business environment. There are many business performance improvement techniques that have been developed over the years and they include; quality management, process improvement, balanced scorecard, Benchmarking, and process reengineering methodologies and among others all focusing on improvement of an existing process (Macdonald, 1995, Benjamin 2017)

Having this in mind the objective of this research is to examine the effectiveness of business process automation & implementation. Therefore, the theoretical background has been given to examining the definitions of business process automation & implementation, as well as to describe the benefits of business process automation & implementation and adoption of the ethio telecom.

The below hierarchical positioning shows that ethio telecom business process management development is aligned with the government policy and corporate policy so that it will help well to implement for supporting the inefficiency of the company performance.

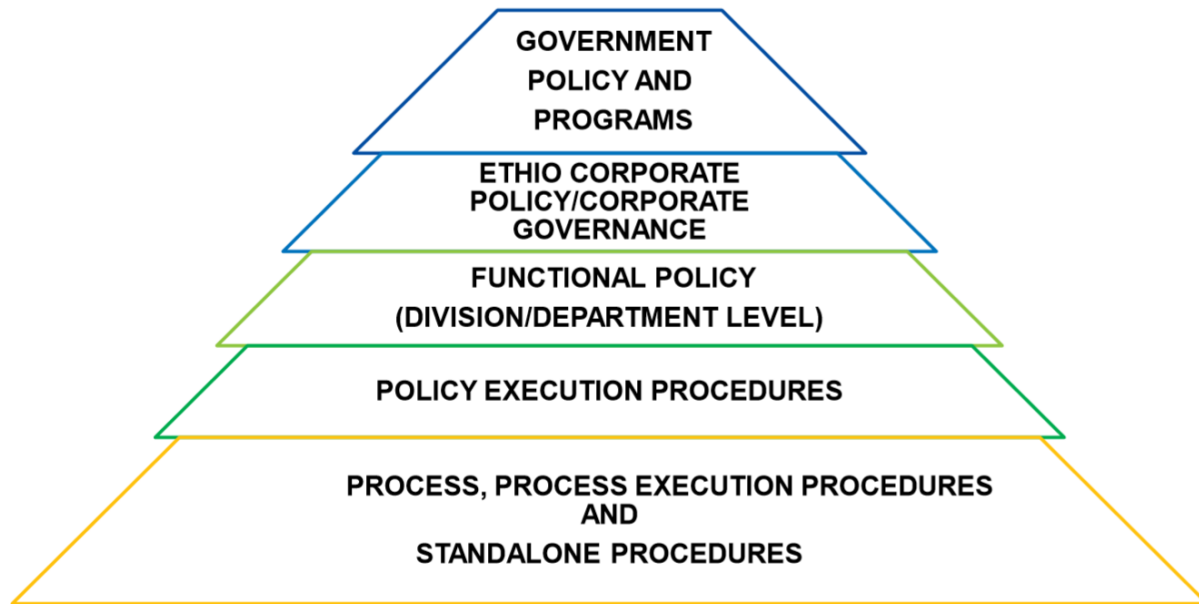


Figure 1: ethio telecom working system structure, internal document validated April 2020

The business process and implementation concept, in most countries and organizations, has been preceded by traditional performance enhancement management systems. ethio telecom had been using different sets of organizational performance enhancement tools and systems which were subjective and a source of conflict between working units and their regulatory body. The researcher will try to see the effectiveness of business process automation and implementation practices in the organization and tries to give insights into the nature of the organization's business process and implementation practices, how it is a day to day activities are affected by the implementation of business processes as well as their automation statuses.

1.1 Ethio telecom Background

Ethio Telecom is one of the biggest governmental telecom service providers in Ethiopia. It is integrated telecommunications offer provider of internet, data, VAS, International, and voice services. Telecommunications Services started in Ethiopia 126 years back in 1894, only seventeen years after its invention. The organization was established in 1952 by the name of "Imperial Board of Telecommunications of Ethiopia" (IBTE) and later changed to "Ethiopian Telecommunications Services" (ETS) after twenty years. Since then, it has evolved from the "Ethiopian Telecommunications Authority" (ETA) in 1975 to the "Ethiopian

Telecommunications Corporation "(ETC) in 1996 (Ethio telecom website, 2014). By the year 2010, the government of Ethiopia had decided to transform the telecommunication infrastructure and services to a world-class standard, considering them as the main focus of the development of Ethiopia. The government outsourced the management to France Telecom (now is called just Orange telecom) as the existing organization was not able to meet the demands of the fast-growing country and customer demand as well as industry train. The current ethio telecom is born to bring the ambition and paradigm shift in the development of the telecom sector to support the steady growth of the country. Currently, Ethio Telecom has 19,100 (as of Nov 2020) employees. It has an average annual revenue of over 40 Billion ETH birr. It has over 49 million subscribers throughout the country (Ethio telecom internal magazine, 2020). As per the contractual agreement with the Ethiopian government, France Telecom (Orange) was trying to improve and modernize the organization's overall business aspect through implementing better working business processes, building human resource capacity tasks as well as applying customer-focused services with best customer handling practices. Starting from December 31, 2012, after the two and half years of the management contract was completed the Ethiopian managers have taken over the organization management. (Ethio telecom website, 2014).

As part of the enhancing ethio telecom business and working systems, the introduction of business process implementation & models was born and start working as mains to enhance the performance of many areas in the organizational business streams, ethio telecom started the business process and implementation manly during France Telecom management era to create a more efficient and strategy-focused high-performing organization.

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1.2 Statement of the Problem

This study amid to assess the effectiveness of business process automation & implementation in ethio telecom.

The current ethio telecom was established after it has gone through so many years of change, reform, and transformation. In 2010 the government of Ethiopian decided to outsource and give a management contract for France telecom which is orange group took place and replace ethio telecom management for 2 years aiming that to capacitate ethio telecom management skill development, creating a business mindset, how to enhancing market and increase product/service portfolio as well as introducing new ways of doing business, one of the new concept that was introduced during the outsourced management was the introduction of business process designing, implementation automation, and assessment task. The business process development

was based on a known and internationally accepted framework, the model introduced was the eTOM “enhanced Telecom Operation Map” a de facto standard (ITU-T M3050) which is the best practice for telecommunication business processes, developed by the international non-profit organization TM Forum. However, the eTOM has “only” been a hierarchical collection of process activities so far: it does not contain a recommendation on how to combine such activities into implementation and automation, this means that the control aspect, thought indispensable for the execution of a business process (Kelly 2003, p. 111). The effectiveness of business process implementation and assessment in the organization is vital and very critical to the organization's development.

This research aims to investigate the effectiveness of business process automation implementation & assessment at ethio telecom, the study uses quantitative methods and questionnaires to collect data for the survey that helps to understand in-depth the motivation of the management & employees to effectively implement the business processes across the organization.

An efficient and well-implemented business process will play a vital role in day to day performance of the telecom and other sectors to continuously improve and work to fine-tune every business process implemented for the best service provisioning is mandatory as well as to adapt to the changing telecom industry behaviour and customer need & satisfaction. To answer the problem of effective implementation of those business processes and making them be automated is a very critical task to functional chief officers and at large at the company level.

1.3 Research Questions

The main research question that will be required to be addressed to achieve the objective of the study is as follows: -

1. What is the awareness level of the respondent's ineffective implementation of the business process?
2. At what degree the respondent gets support from their immediate managers to effectively implement the business process?
3. What are the challenges for effective implementation of a business process by the respondent?

4. At what level the respondent participate in the designing and development of new or revision of the existing business process.
5. What systems or tools the respondent used to make effective implementation of the business process?
6. Effect of Business process implementation effectiveness on organizational performance

1.4 Objectives of the study

The main objective of this study is to assess the effectiveness of business process automation & implementation at the functional areas which are called divisions at ethio telecom. Values related to business process implementation are to be identified as the dependent variable in the study. A study will focus on business process implementation and organizational performance as a major dependent variable which depends upon various factors for its increase or decrease. A formal theoretical framework is designed based on the dependent and independent variables. After this research at the company and division level, it will figure out what is the reason and gaps for business process implementation, and its impacts on the organizational performance.

1.5 The general objective of the study

The general objective of this study will be to understand and clearly articulate the problem for business process automation & implementation and its effect on the day-to-day operation of the working units.

1.6 The specific objectives of the study

Specifically, this study will address the following objectives.

- ✓ To assess the effectiveness of business process automation & implementation.
- ✓ To figure out the reasons for business process implementation gaps and limitations.
- ✓ To find the challenges of business process automation & implementation.

1.7 Scope of the study

This study will be restricted only to assess & understand the key factors affecting business process automation & implementation and its effect on the overall performance of the ethio telecom. As ethio telecom is a big company and works all over the country having 604 business

processes 15 policies 123 working procedures and 25 operational level agreements. The study focuses only on selected corporate divisions of Chief executives, directors, managers, and supervisors with their selected employees at the selected corporate and zonal offices in Addis Ababa.

1.8 Significance of the study

The Telecom sector has a very critical effect on the development and growth of the country, different businesses, and industries. Due to the ever-growing service and telecommunication infrastructure demand of society and increment of economy, a large amount of equipment, and high complexity of services as well as networks infrastructures are deployed from time to time so that to integrate those network elements and services delivered the corresponding business process automation & implementation is vital and demanded in the organization to continuously improve service quality, network availability and improved customer satisfaction. So, studying and understanding the business process of these functional divisions will benefit the overall aspect of ethio telecom in identifying the behaviour of business process automation & implementation and in the case of ethio telecom function or divisions.

1.9 Scope and Limitation of the Study

The sample of the study is limited only to ethio-telecom selected divisions and selected Zones in Addis Ababa; it would have limited assessment coverage to make it more complete at the organization level. The other limitation will be the Chiefs, Directors, and Managers of ethio telecom might be very busy and therefore they required a lot of time to fill the questionnaires. The business process framework in which ethio telecom selected to improve its business process is generic and can be applicable at all service industries however, despite the limitations mentioned, the researcher has mitigated the problems using different mechanisms to get information and managed the subject under study.

The scope of this study is to address 604 ethio telecom business process automation & implementation assessments.

CHAPTER TWO

LITERATURE REVIEW

2 Introduction

This chapter is dedicated to reviewing related literature. It dealt with relevant topics such as the historical evolution and development of business process implementation as well as its effect on the performance of an organization, the theoretical background of eTOM and ITIL components of business process, characteristics of a business process based on the theoretical and empirical review, the conclusions will be drawn.

2.1 Theoretical literature

Ethio telecom business process implementation and its organizational performance are linked and its aspiration is derived from the vision and mission of the company to achieve its strategic objectives. So the Vision of ethio telecom is:

“To become a world-class provider of telecom services”

And the Mission is: -

To provide world-class modern and high-quality telecom service accessible to all citizens thereby supporting the multifaceted development of the country to the highest level.

Gap – that should be addressed

The gap that needs to be filled in this research will be at ethio telecom business process development and implementation its implementation has a large difference which is 604 business processes at a different functional area or division commercial, support, and technical domain 99% implemented but only 352 business processes which are 53% automated identifying this gaps and reason.

2.3 What is a business process?

In the first step to understand the business process and to improve and make it automated, it will be better to understand what a business process means first. The business process is simply a series of tasks/steps that an organization team member tries to follow to deliver service/products to their customers. The business process can be designed and modeled¹ as a different flowchart, which details the tasks necessary to provide the required services to achieve business goals. A business process starts with an input and an activity to be processed and in the end, it provides an output or result of the process to the customer.

This day, many organizations are continuously under competitive pressures and forced to re-evaluate their business models and underline business processes automation and implementation. As per the definition of Zairi a process is an approach for converting inputs into an output. (Suša Vugec et al., 2019). Over the past two decades, definitions of business process management (BPM) have ranged from IT-focused to BPM as a holistic discipline. According to Elzinga, BPM refers to a systematic approach to managing processes to improve the quality of products and services. Zairi describes BPM as a structured approach to analyse and continually improve fundamental activities such as marketing, manufacturing, communications, and other major elements of organizations' operations (Suša Vugec et al., 2019). In Ethiopia, Ethio Telecom (ET) is the sole operator and service-providing company. It was established on November 29, 2010, by "Ethio-Telecom Establishment Council of Ministers Regulation No.197/2010" and took over all the duties and responsibilities of Ethiopian Telecommunications Corporation (ETC). To manage all network elements and provide services at the expected quality modern and efficient business processes as well as the implementation of those business processes should be mandatory to achieve the mission and vision.

CEO in most organizations use business process management and assessment as a discipline for improving business results more important focus worldwide. In the 1990s, companies were focused on business process (BP) redesign projects (using information technology and automating business processes) at a process level. Since 2010 the development of business process architecture, process standardization for customers' satisfaction focus shifted to strategy or enterprise-level which means that managers have become aware that without proper system or tool such as business process management (BPM), business process implementation (BPI), or business process reengineering (BPR) it is not possible to achieve company business goals. This has led to the creation of Business Process Management Systems (BPMS) at the implementation level, combining processes, employee skills, and IT systems in one entity (Batenburg & Ravesteyn 2010). Business Process Management (BPM) struggles with the improvement of how companies conduct cross-functional work and ensure that company-wide capabilities are available that enable the effective management of the entire business process life cycle (Kerpedzhiev, König, Röglinger, & Rosemann 2017, Management, 2018).

As ethio telecom is once understood the gap and the level of service delivery in Ethiopia it is decided to use one of the models to implement a business process which is called eTOM. Which is a business process framework, a reference framework, or a model for categorizing all the business activities the service provider will use.

The eTOM framework consists of different horizontal and vertical process areas. As shown in the Figure below the highest conceptual view of the enhanced telecom map (eTOM) framework. There are two main vertical parts, namely Strategy, Infrastructure & Product in one hand and Operations in the other, with four functional horizontal layers across. In addition, there is another main area called Enterprise Management at the bottom of the diagram. That is a category of holding Customer, Suppliers/Partners, and other relevant external actors are shown in that picture. (Jiejin, 2009)

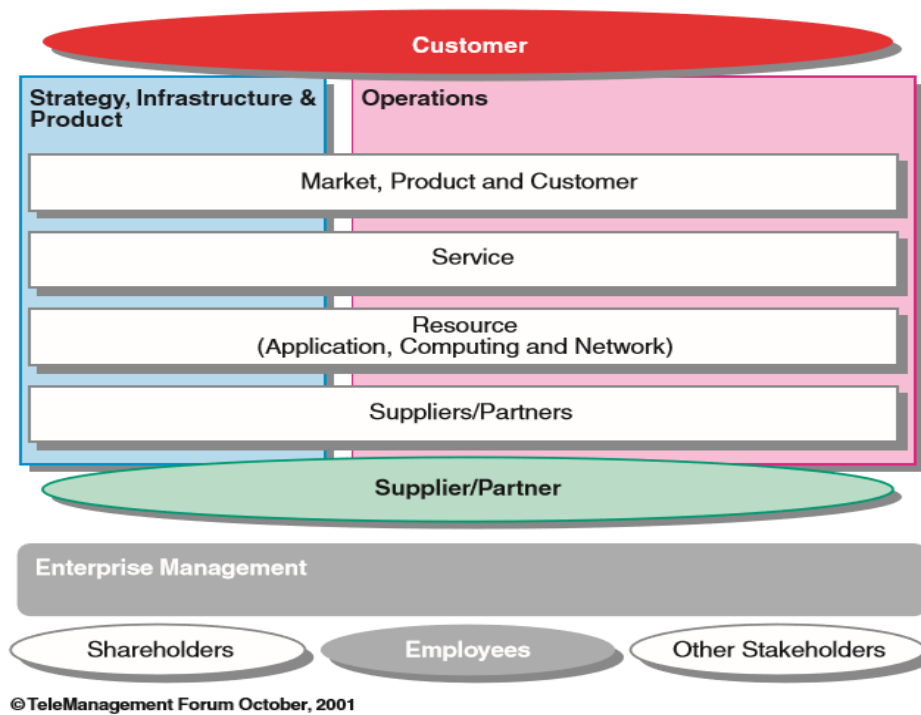


Figure 2: Conceptual overview of eTOM framework ((Jiejin, 2009)

2.4 The eTOM architecture

The eTOM is the most widely used and accepted standard framework for business processes in the service and related industries. It delivers a business process model/framework for use by service providers and other organizations within the communications and related sectors industry. This framework describes the full scope of business processes and provides the most commonly used business language for the whole industry to enable compatibility. This Framework is used to serve as a tool to analyse the existing Business Process, by assessing the value, cost, and performance of these processes. The review of the existing processes enables the service providers to eliminate duplication where different processes deliver the same business functionality, thus leading to cost-saving. The Business Process Framework can find missing steps in the process and simplify procurement, serving as a common language between service providers and suppliers. (Jiejn et al., 2009)

After the conceptual overview of the eTOM architecture, there is a need to dedicate deeper levels of the eTOM framework to master the mechanism of utilizing eTOM to solve problems. (Jiejn et al.,2009)

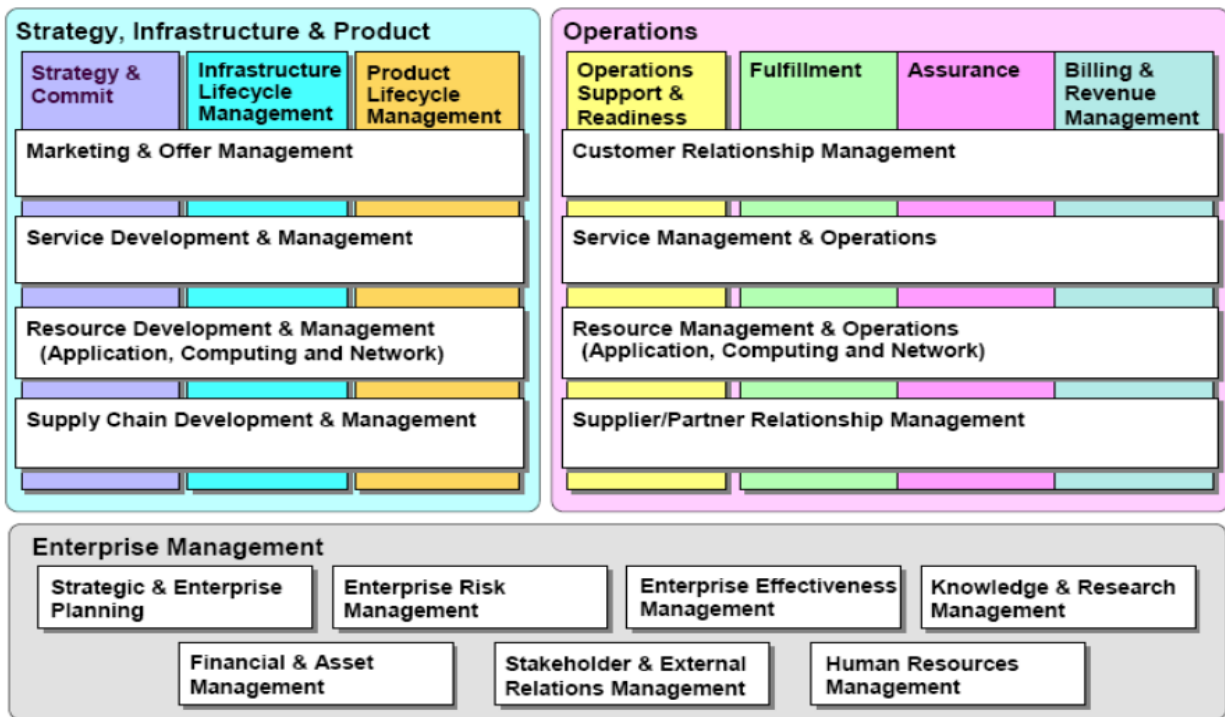


Figure 3: eTOM Business Process Framework - Level 1 processes((Jiejn et al., 2009)

From Level 0 to Level 5 of the eTOM framework, there are different manifestations and functionality for each level. There is a brief introduction to the different levels of the framework, our focus to the eTOM level 3 which is more practical and operational business process areas as shown below.

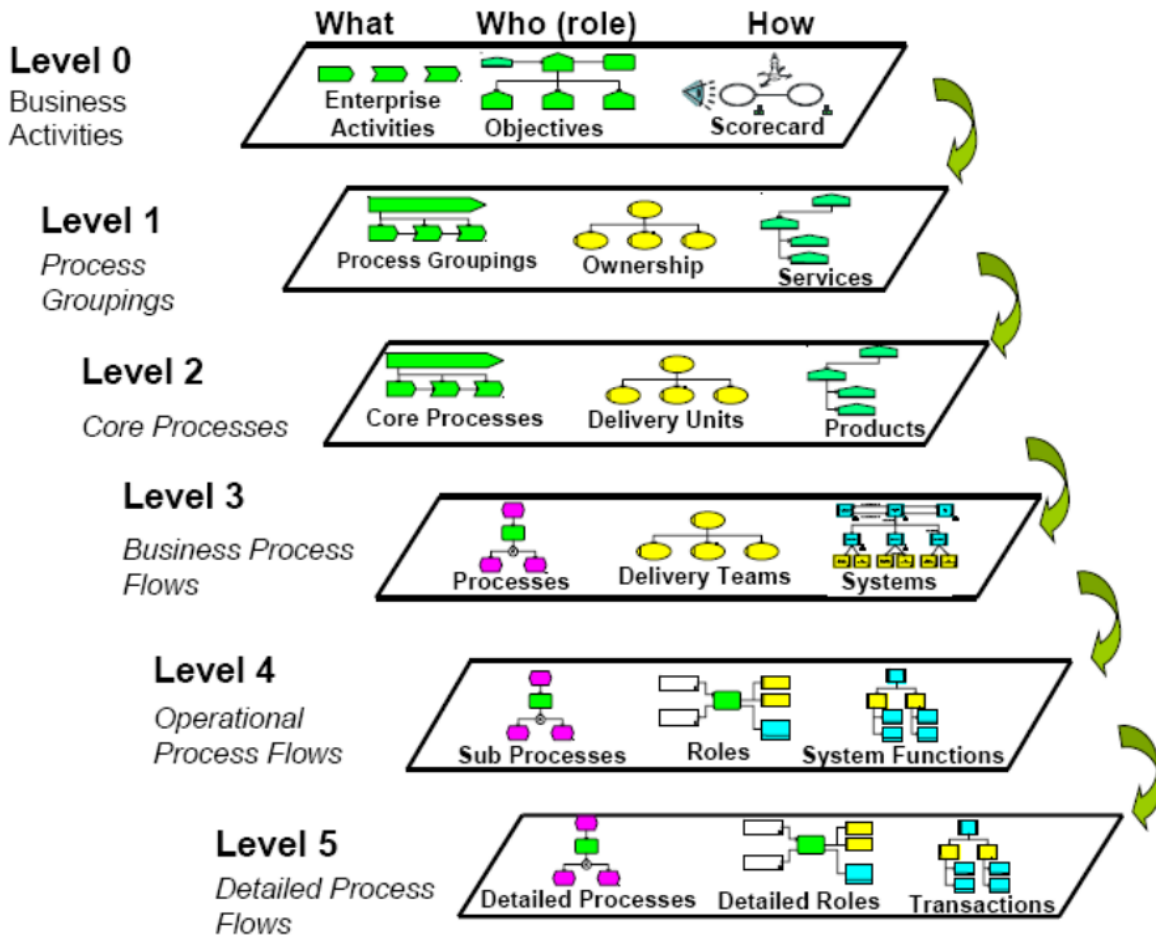


Figure 4: Process hierarchy

Let us see what those levels are from 0 – 5 Levels. To understand what business processes are at each level.

Level 0 Business Activities Identify and model:

Business objectives, value streams, environmental and fiscal constraints; develop balanced scorecard and product lines. These are the business goals that process and systems solutions must deliver.

Level 1 Process Groupings Design:

Product structure, product delivery, and support process chains, enterprise-level data model, organizational structure. Identify business knowledge. This is the functional structure that delivers your business. It refines the Level 0 entities, such as operations, into more specific functional areas, such as Customer Relationship Management (CRM), service management, and resource management. Figure 1

Level 2 Core Processes Identify industry-standard reference models; develop:

Generic processes, process hierarchy; identify and model business data definitions, system structure; define business roles. Processes are the key to delivering business objectives. It provides a further level of decomposition into specific processing areas, such as order handling or loyalty retention. Figure 2

Level 3 Business Process:

Flow Design detailed processes; assign business roles; choose supporting systems, data flows. Map business data models to systems data models. Consider failure paths, queues, and bottlenecks. The detail is essential to ensure every action adds value to the business (which means to the customer) or is an essential requirement. It defines the process flows of the Core Processes defined at Level 2, such as issuing customer orders, authorizing credit, and tracking order handling. As the thesis introduced in Chapter 3, the supporting tool we select to use provides the processes only until Level 3. Figure 3

Level 4 Operational Process:

Flow Develop detailed sub-process design; define operational roles; link processes to written procedures; identify detailed systems, equipment, and resource usage. It defines in more detail the business process flows which should base on the specific case of the enterprises. Normally there is no more standardized process in the eTOM. Figure 4

It defines in more detail the business process flows which should base on the specific case of the enterprises. Normally there is no more standardized process in the eTOM framework; the main task is to create the processes in Level 4 according to the scenarios and problems that emerged in the enterprises. Figure 5

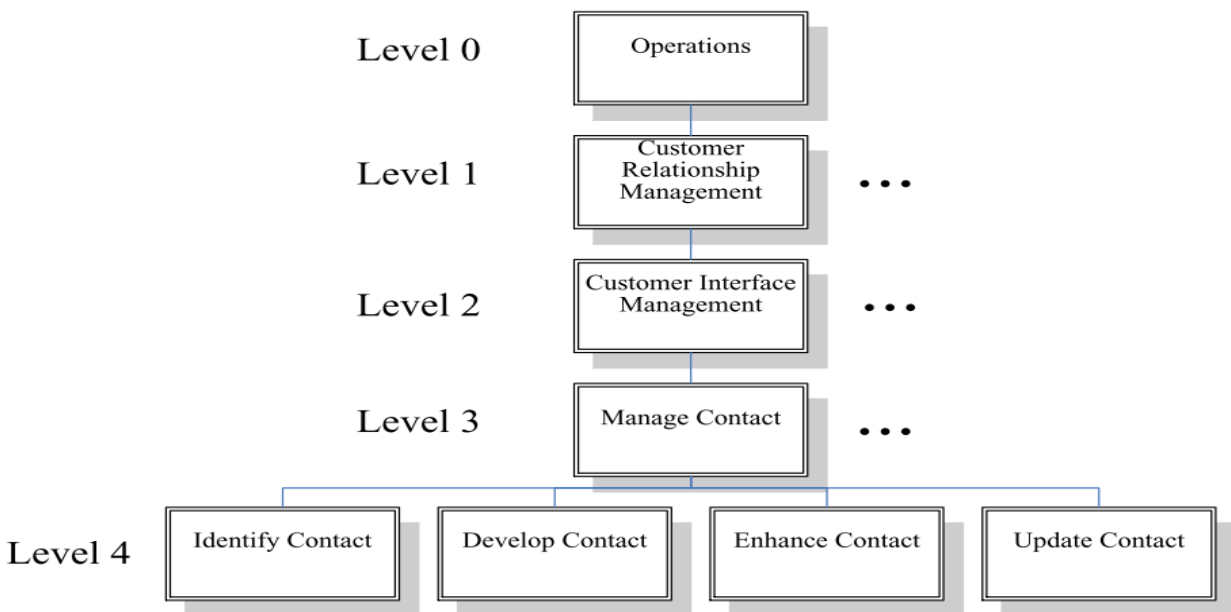
Level 5 Detailed Process:

Flow Deliver the process flow automatically through workflow systems, e-business solutions, and systems development. Link process and data models to systems and software development environments. GB921 Addendum U, Version 1.8 (Jiejin, 2009) Figure 6

2.5 Process decomposition

Hierarchical decomposition enables detail to be defined in a structured way and allows the Business processes deployment in a practical scenario framework to be adopted at varying levels and for different processes. An example of the partial decomposition of a given process at Level 0 into sub-processes up to Level 4 is shown in the figure below.

Figure 5: Partial decomposition from Level 0 to



Level 4

Ethio telecom business process framework (eTOM) overview (V 18.5)

Since the establishment of ethio telecom in 2010 during the management of France telecom it had been using a different version of eTOM.

- **3 Major process areas**
 - SIP
 - OPS
 - EM
- **8 Domains**
 - Market and Sales
 - Product
 - Customer
 - Service
 - Resource
 - Engaged party
 - Enterprise
 - Common Process pattern

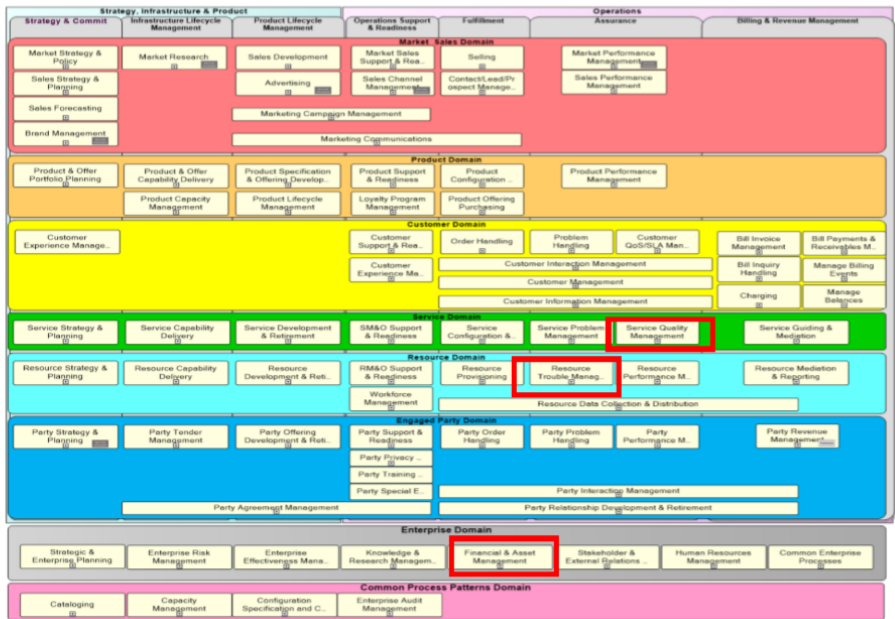


Figure 6: ethio telecom quality manual document.

Ethio telecom business process framework ITIL life cycle

Information technology infrastructure library (ITIL) is part of the eTOM framework for the Information technology area business process.

1. Provide a strategy for the service lifecycle

4. Focuses on meeting end-users' expectations while balancing costs and discovering any potential problems



2. Design services and all supporting elements for introduction into the live environment

3. Build and deploy IT services plus sure that changes to are carried out in a coordinated way

Figure 7: ethio telecom quality manual document.

The benefit of using the eTOM framework as a business process

The capacity to utilize a standard set of telecommunication frameworks in the industry covering all operational areas, these business processes creates an increasing requirement for telecommunication customers. eTOM is a framework that fulfills this need by providing a real solution for cycle time reduction, improved customer satisfaction, and overall operational efficiency resulting in long-term revenue growth. (Jiejun, 2009). The benefit of implementation not only for ethio telecom but also to most industries are not vital rather it is obligatory and mandatory b/c it will increase their way of doing things such as to: -

- Increase processing speed: - business process implementation helps to reduce service delivery at the shorter possible time and increase speed.
- Ensure customer satisfaction: - because of the uniformity and business process implementation speed customer satisfaction will be enhanced.
- Reduce workforce training: - most of the clerical tasks are replace by implementation so that workforce training will be very minimal.
- Reduce employee turnover: - very clerical and tedious works will be replaced by implementation so that employees will focus on highly specialized areas of work.
- Reducer human errors: - through business process implementation minimal human errors are introduced.
- Keep service delivery uniform: - across all working areas of the ethio telecom shops and working units will deliver near to the similar and uniform quality of service delivery.
- Business implementations help people to do more with better quality and speed without getting tired and implementation help to bridge the gap b/n the employee need and company benefit, by making things controlled and measurable.

2.6 Characteristics of business process

Business processes have different characteristics which the organization has to have the activities in a definite boundary, inputs, and outputs and the activities have an ordered list of sequence. It asks: “Who is the customer?” and must add value for the customer. It is also embedded in an organizational process and usually spans several functions. It has an owner, someone who is responsible for overseeing and improving this process.

2.7 Evolution of business process

The evolution of business processes worldwide and at the ethio telecom level is not that much matured but especially when we see the last 30 years this idea of the business process become the issue of all business across the world.

Table 1: Evolution of business process: by Sandra Lusk, Staci Paley, and Andrew Spanyi
BPTrends. June 2005

Phases	Timeline	Focuses area	Business	Technology	Tools/enables
Industrial age	1750 – 1960 s	<ul style="list-style-type: none"> ▪ Specialization of Labor ▪ Task Productivity ▪ Cost Reduction 	<ul style="list-style-type: none"> ▪ Functional Hierarchies ▪ Command & Control ▪ Assembly Line 	<ul style="list-style-type: none"> ▪ Mechanization ▪ Standardization ▪ Recordkeeping 	<ul style="list-style-type: none"> ▪ Scientific Management ▪ PDCA Improvement Cycle ▪ Financial Modeling
Information age					
1st Wave Process Improvement	70 s – 80 s	<ul style="list-style-type: none"> ▪ Quality Management ▪ Continuous Flow ▪ Task Efficiency 	<ul style="list-style-type: none"> ▪ Multi-Industry Enterprises ▪ Line of Business Organization ▪ Mergers & Acquisitions 	<ul style="list-style-type: none"> ▪ Computerized Implementation ▪ Management Information Systems ▪ MRP 	<ul style="list-style-type: none"> ▪ TQM ▪ Statistical Process Control ▪ Process Improvement Methods
2nd Wave - Process Reengineering	The 1990s	<ul style="list-style-type: none"> ▪ Process Innovation ▪ “Best Practices” ▪ Better, Faster, Cheaper ▪ Business via the Internet 	<ul style="list-style-type: none"> ▪ Flat Organization ▪ End-to-end Processes Value Propositions – Speed to Market, Customer Intimacy, Operational 	<ul style="list-style-type: none"> ▪ Enterprise Architecture ▪ ERP ▪ CRM ▪ Supply Chain Mgt 	<ul style="list-style-type: none"> ▪ Activity-Based Costing ▪ Six Sigma ▪ Buy vs. build ▪ Process Redesign/ Reengineering Methods
3rd Wave - Business Process Management	2000+	<ul style="list-style-type: none"> ▪ Assessment, Adaptability, & Agility ▪ 24X7 Global Business ▪ Continual Transformation 	<ul style="list-style-type: none"> ▪ Networked Organization ▪ Hyper Competition ▪ Market Growth Driven ▪ Process Effectiveness over Resource Efficiency ▪ Organizational Effectiveness over Operational Efficiency 	<ul style="list-style-type: none"> ▪ Enterprise Application Integration ▪ service Oriented Architecture ▪ Performance Management software ▪ BPM Systems 	<ul style="list-style-type: none"> ▪ Balanced Scorecard ▪ Self Service & Personalization ▪ Outsourcing, Co-Sourcing, In-sourcing ▪ BPM Methods

2.8 Business processes implementation failure factors

Business process implementation depends on the well-designed process, applied implementation, and owner strong follow up to make all users and employees aware to implement the designed process. So, business process implementation failure factors can be many depending on the situation area such as wrong activities, wrong business process users and implements, lack of strong business awareness creation and communication.

2.9 Business processes implementation and success factors

Ethio telecom business process implementation status from the designed process as stated in the above 604 business process in different functional area or division for commercial, support and technical domain 99% implemented and 352 business process which is 53% automated.

2.10 Corporate performance management

To maximize performance management of business processes and automation every progressive organization needs “something” that enables it to formulate the strategy, implement business processes and automation that support operations, provide better performance evaluation and operational excellence as well as control, learn and change.

Business process automation and implementation has a very significant role in the performance of ethio telecom by: -

- Increased productivity,
- Reduced likelihood of error,
- Reduced time in task execution,
- Improvements in internal communication,
- Integrated systems,
- Reduced operating costs,

But it will be very challenging to explicitly identify the contribution of business process automation & implementation in the ethio telecom performance. So, the researcher tries to see some point of comparison since ethio telecom establishment and usage of those business processes automation and implementation from June 2010 to June 2020 for 10-year.

- Growth revenue from 5 billion birrs to 40 billion berr
- Customer base 17M to 58M
- Service diversification and offer type from 5-7 portfolio to more than 61 different offers for the customer

Keeping all other parameters also have a contribution to the improvement of ethio telecom Performance.

2.11 Theories on business process implementation

Almost all telecom sectors these days have the challenge to be best service providers b/c the demand and the requirement from customers are tremendously increasing and changing so that the service should be efficient enough to satisfy customers need, to do that efficient and effective business process are very mandatory both for the company and for the customer, not only having business process but also it required implementation in large even though there are human intervention is critical and unavoidable.

Many routine tasks can be automated while others may still need human involvement. In general, tasks can be full/semi-automated or manual. Business process modeling and their implementation improve the performance of business activities and enable enterprise-wide monitoring and coordination (Nikolaidou, 2001, Benjamin, 2017)

However, Process implementation is dynamic and has many challenges which need further analysis. Because of the dynamic nature of these business processes, it is not advisable to create a fixed model for business processes. (Monay, 2013). This study sought to assess the effectiveness of business process automation and implementation of a company because of the ever-changing business environment. Operational. (Benjamin, 2017)

2.12 Benefits of business process implementation

Business process implementation benefits both companies and also employees to increase productivity by lowering burden from employees, by improving compliance, enhance accuracy, increase speed to the service/product delivery, increase customer satisfaction and become agile business delivery.

Ethio telecom has many systems that support those business process implementations and its implementation which can be upgraded from time to time and facilitates end to end service delivery of the company to its customer. Some of those systems that help the business process implementation: -

1. Customer Relation Management CRM: - This tool and implementation is to support many customer-related business process activities like
 - Help to manage dunning for fixed, data, and mobile service
 - Help to manage bill collection related problem management
 - Customer credit management
 - Customer complaint management
 - Manage after-sales service
2. Enterprise Resource Planning ERP has many modules
 - All company financial budget user's management
 - All purchases from request to goods delivery and related management
 - Recruitment and material management for market
3. Employee database and profile management
4. CCB& Zsmart
 - An end to end service provisioning and operation support system
 - Customer support and management
 - Infrastructure and resources support
5. Internet Protocol Contact Center (IPCC)
 - Help to support customers after-sales services
 - All customer online support and help center
6. Electronic Customer Acquisition Form (e- CAF)
 - Help to manage electronic sales registration of customer profile
7. E-mail
8. E-top-up
 - Electronic airtime management system
9. Service problem management SPM(TT)
 - Customer problem registration and follow-up management.
 - Network trouble ticket management

10. Unified Network Management System (UNMS)

- The name helps to manage different systems to unified and be monitored from a single point and platform.

11. Convergent Billing System (CBS)

To align and see those and other many systems to interlocked and facilitate ethio telecom business process into implementation.

CHAPTER THREE

RESEARCH METHODOLOGY

3 Research Methodology

3.1 Data type and sources

The study adopted a descriptive research design since the study intended to gather quantitative and qualitative data that describes the nature and characteristics to identify the effectiveness of business process automation & implementation of the functional areas which are called divisions at ethio telecom. According to Sekeran (2003), a descriptive research design is a type of design used to obtain information concerning the current status of the phenomena to describe "what exists" considering variables or conditions in a situation.

Mugenda (1999) describes descriptive research as including surveys and fact-finding inquiries adding that the major purpose of descriptive research is a description of the state of affairs as it exists at present. The study considers this design appropriate since it facilitated towards gathering of reliable data describing the true characteristics of the effectiveness of business process automation & implementation at the divisions of ethio telecom.

3.2 Study Population

Selected chief executives of ethio telecom functional/divisional, Managers, supervisors, and employees were a part of the study population. corporate and zonal selected Chief officers, management group and employee will be included in the study because they will be chosen by knowledge and experience and has a better understanding on business process implementation of ethio telecom because they are familiar with it and provide access to ethio telecom for getting the necessary information for the research.

Ethio telecom has five hierarchical levels chief Officers (are responsible for division), Directors (are responsible for departments), Managers (are responsible for section), supervisors (are responsible for groups), and staff. so that the three levels are classified as management groups and the last two levels are categorized as non-management groups. Therefore, to make the sampling representative the sampling considered both groups. In determining the actual sample size, the researcher taken into account the minimum required returned sample size, type of data analysis to be used, and the expected rate of missing data. Because of the geographical

constraint, the study will be concentrated on Addis Ababa corporate and zone. Moreover, studying different zones and regions would not bring significant differences since ethio telecom follows a centralized management system most of the activities are similar.

3.3 Sample and Sampling techniques

The sample size is the number of observations was used to calculate estimates of a given population. In this study, the researcher was used a stratified sampling procedure to pick the sample for the study (Orodho, 2003). A sample size of 10% was justifiable since according to Orodho (2003) 10%-20% of the sample gives an unbiased representation of all respondents' opinions in the target population and this assists in the generalization of research findings when the study design is descriptive.

3.3 Data collection Method

The research uses both primary and secondary data. The secondary data was collected from ethio telecom's working business processes, policies, procedures, forms, and other documents which are linked with the business process automation and implementation also with different kinds of literature on the area. The primary data was collected through a questionnaire and it includes open-ended and close-ended questions. All lists of business process and their respective owners was collected and identified by location, business process responsibility and number of process per his/her domain.

3.4 Source of data collection

The researcher uses both primary and secondary data in the data collection to help the interpretation of collected data in the research.

3.5 Primary Sources Data

A questionnaire is one of the primary sources of data, a questionnaire with close and open-ended questions for (top management, middle management, and employee). The questionnaire is used to measure variables that are uniquely important to employees working at different levels in the organization (i.e. senior level management, middle-level management, and employee). Semi-structured Interview: the second primary source of data is an interview. An in-depth semi-structured Interview is used to view the organization's business process as well as implementation states.

3.6 Secondary Sources Data

Though the research tried to identify the effectiveness of the business process automation & implementation on the ethio telecom, analysis of the organizations' business process implementation assessment & practice, documents, plans, reports, and automation policy procedure are reviewed.

3.7 Sampling Size

The total population of ethio telecom is more than 19 thousand and the management is around 4980 including supervisors so this study will consider selected corporate Chief officers, directors, managers, supervisors, and employees at the different working levels in Addis Ababa. Both Female and male business process owners' implementers and counter development and controlling division. In this research, employees of ethio telecom at Headquarters are considered as the total population of the study. Human resource, finance, sourcing, facility, network (Infrastructure and power, Network operation and service management, wireless, transport network and fixed network divisions), ISD, ISecD, audit, and legal division workers are to be included as a major source of information for this research.

The rationale to give equal representation to all the divisions of the organization is to use the stratified sampling method. This technique helps to obtain estimates of known precision for certain subdivisions of the commercial divisions by treating each subdivision as a stratum. It is preferred to other techniques due to its capacity to produce a gain in precision of the estimates of characteristics of the whole population.

Ethio telecom is organized into six hierarchical levels. These are the CEO, chief officers, officers, managers, supervisors, and employees. The first two levels are classified as a top management group and the next two as middle management group whereas the other two levels are categorized as a non-management group. Therefore, to make the sample representative, the sampling was considering the three groups. The researcher has used interviews as well as a questioner for selective top management and management groups and a questioner for non-management.

In determining the actual sample size, the researcher may take into account the minimum required returned sample size, type of data analysis to be used, and the expected rate of missing data.

Because of large geographical constraints, the study was focus on Addis Ababa specifically selected zonal office and head office. Moreover, studying different zones and regions would not bring significant differences since the company follows a centralized management system and most of the activities are done at regional offices are similar.

One of the most common questions posted to a survey, the methodology is sample size precession. As mentioned above this study uses a stratified sampling method.

Sample size can be estimated by using the following formula.

$$n = \frac{\sum w_h S_h^2}{1 + \sum w_h S_h^2 / N}$$

$$n_h = \frac{N}{N} * n, h=1, 2, 3.$$

$$n = (n_0 / 1 + n_0 / N)$$

$$n_0 = \frac{\sum w_h S_h^2}{v}$$

Use adjustment formula ignore fbc when: $n = n_0$, where $v = (d / z_{\alpha/2})^2$.

$$Sh^2 = NP_h Q_h / N_h - 1$$

Notation: N_h = Number of population in h workers, α = level of significance

n_h = number of sample in h workers, n_0 = initial sample size

N = total number of population, P_h = probability of success

n = total number of sample size, Q_h = probability of failure

To determine sample size, we used simple random sampling for proportions as follows.

- The degree of confidence 95%.
- Margin of error ($d=10\%$).
- Population proportion: By taking $p=0.5$ and $q=0.5$.
- Normality distribution by using the above assumptions to the sample size was computed by using the following formula.

$$n = \frac{n_0}{1 + \frac{n_0}{N}}$$

$$n_0 = \frac{\sum w_h S_h^2}{v}$$

Total or $N=4980$

$N_1 = 2408$, $N_2 = 2110$, $N_3 = 462$ for the category of management level (the stratum of Managers, supervisor and employees). Those are the stratum of the data.

$$W_1 = 2408/4980 = 0.5$$

$$W_2 = 2110/4980 = 0.413$$

$$W_3 = 462/4980 = 0.090$$

$$\sum W_h = 0.97405$$

$$V = (d/Z_{\alpha/2})^2 = (0.1/1.96)^2 = 0.01041232281965848$$

$$P = 0.5, q = 1 - p, 1 - 0.5 = 0.5$$

$$n_0 = 0.9999/0.01041232281965848 = 96.03 \sim 96$$

$$n = 93/1 + 93/4980 = 93/1.0181924882 = 91$$

The sample size of each stratum would be calculated by using proportional allocation as follows considering the number of workers in each stratum.

$$N_1 = (\text{employees}) \quad N_2 = (\text{supervisor}) \quad N_3 = (\text{Managers})$$

$$n_1 = \frac{n}{N} * N_1 = \text{employees.}$$

$$n_2 = \frac{n}{N} * N_2 = \text{supervisor}$$

$$n_3 = \frac{n}{N} * N_3 = \text{Managers}$$

$$\text{Then } n_1 + n_2 + n_3 = n$$

n = total sample size.

The sampling frame is the list of three workers.

$$n_1 = 91 * 2408/4980 = 42.86 \sim 45$$

$$n_2 = 91 * 2110/4980 = 37.583 \sim 38$$

$$n_3 = 91 * 462/4980 = 8.19 \sim 8$$

$$n = 45 + 38 + 8 = 91$$

Table: the table below shows a summary of population size and sample size in each stratum. The sampling frame is the list of three workers in the stratum of (Managers, supervisor, and staff)

Table: the table below shows a summary of population size and sample size in each stratum. The sampling frame is a list of three worker levels.

Worker Levels (h)	Total number of units in workers (N_h)	Total number of sample units (n_h)	Percent of the to sample size n
Manager (Technical Division)	462	45	49.45
Supervisor (Commercial Division)	2110	38	41.75
Employees (Support Division)	2408	8	8.79
Total	4980	91	100

3.8 Method of Data Analysis

It is expected that the study generated both quantitative and qualitative data. The descriptive statistics data analysis method was applied to analyse numerical data gathered using closed-ended questions. The Statistical Package for Social Sciences (SPSS) computer software was for analysis to generate a data array that was used for subsequent analysis of the data. SPSS Version 22 has got descriptive statistics features that assist in variable response comparison and gives a clear indication of responses frequencies. The data were clean, coded, categorized per each of the research variables, and then analysed using descriptive analysis such as percentage mean and STD deviation. Pearson correlations were carried out to establish the relationship between the research variables. And the chi-square of independence was also used. The findings were presented using tables since tables are user-friendly and show response frequencies as well as percentages of the respondents' opinions on the impacts of employee turnover on organization efficiency, a case study of the study area. The qualitative data analyses method was applied to analysed the data gathered using open-end questions where the respondents give their personal opinions on the impacts of employee turnover on organization efficiency, a case study of the study area.

To analysed the data in this study, both descriptive and inferential statistical methods were used.

Chi-square Test

The chi-square test was used to find out whether there is an association between the row and column variables. It was used to test the association between two variables and to test the independence between the two variables.

The chi-square distribution is a function of its degree of freedom.

The chi-square test statistic is given by.

$$\chi^2 = \sum \sum \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \sim \chi^2_{\alpha} ((R - 1)(C - 1))$$

Where, C=total number of columns,

R=total number of rows.

O_{ij}: observed frequency in cell (i,j),

E_{ij}: expected frequency in cell (i,j)

-Hypothesis test Ho: There is no association between two variables.

H₁: There is an association between two variables.

The statistics has (r-1) (c-1) degree freedom & level of significance ($\alpha=0.05$).

Decision rule: - If $X^2_{cal} > X^2_{tab}$, DF or $P < \alpha$ = reject Ho.

Conclude that the factor variables are not independent, rather than dependent.

- If $cal < tab$, DF or $P > \alpha$ = retain Ho.

Assumptions of chi-square test of independence

- The sample must be randomly selected from the population.
- The observation must be independent of each other.
- Each number and every individual (object) is independent of each other.
- Each member qualities for one and only one cell in the table.
- The expected frequency for each category must be 5 or greater than 5.

CHAPTER FOUR

PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

Data analysis was a critical study by which the researcher extracts information from data that the researcher was collected. This chapter presents the results and interpretation of this study. Descriptive and inferential statics were used to fulfil the study. In both descriptive and inferential researchers used SPSS-software.

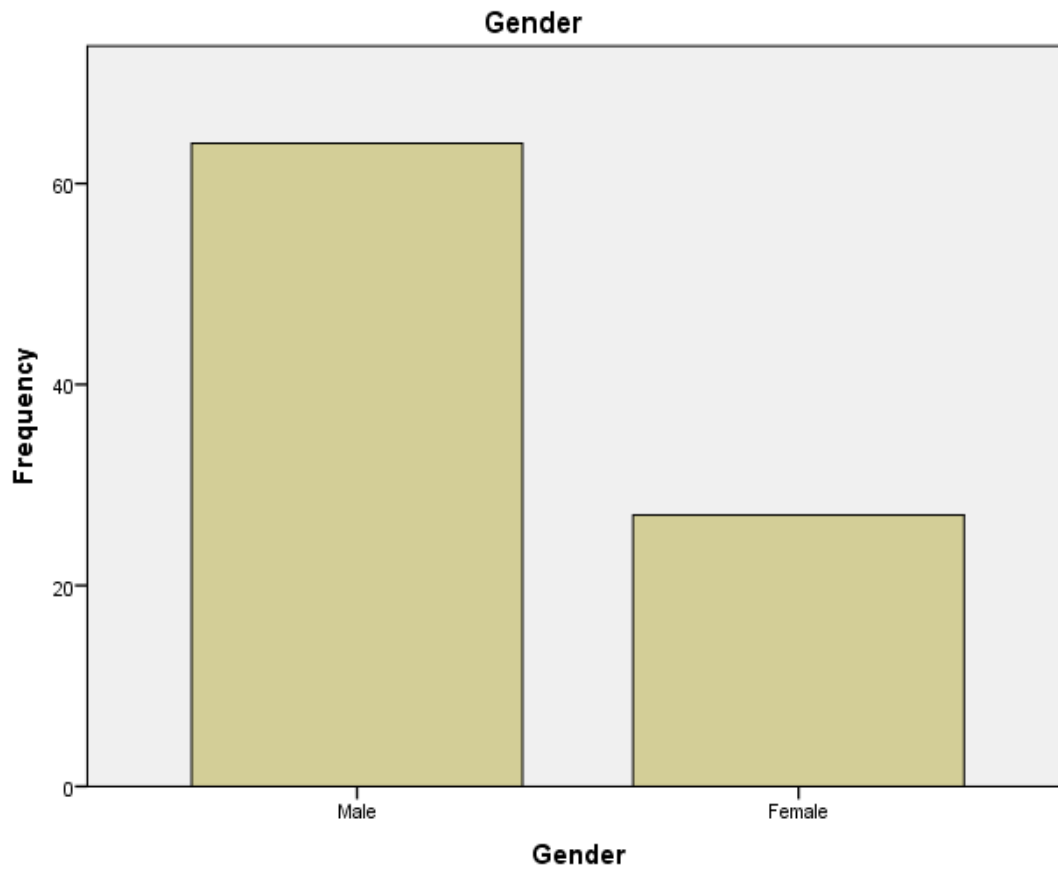
4.1 Descriptive Statistics for General Information

In this study, to have a better understanding of the demographic characteristics and specifications of the respondents, frequency analysis has been used. Six questions give a brief overview of the demographic attributes of respondents. The following tables show frequency for all the categories of general information.

4.2 Representation by graph

The demographic characteristic is presented using descriptive statistics. Descriptive statistics deals with any method or procedures used to present, organize and summarize the masses of the numerical data into meaningful form. The main purpose of descriptive statistics is to provide an overview of the information collected. It is by using various statistical techniques like a graph

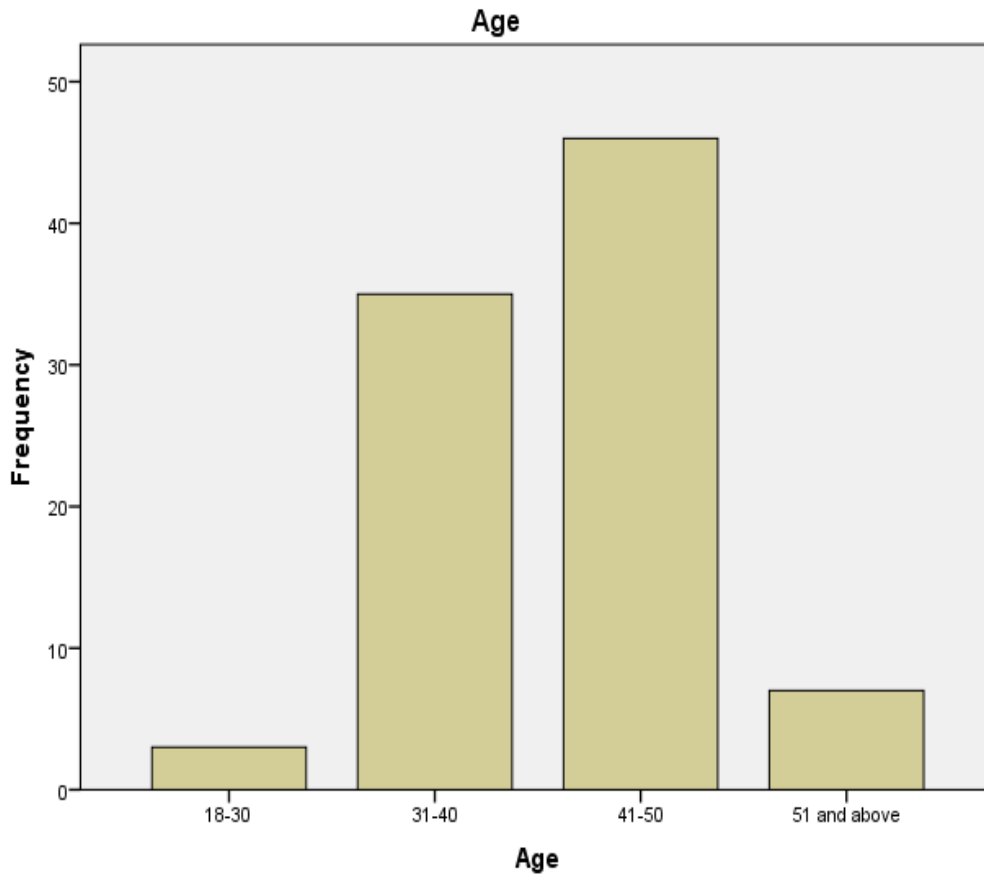
Bar Graph 4.1 Gender of the respondent



SPSS Output - Survey Questionnaire

As shown in the above bar graph most of the population of the sample respondents were male, and the latter was female from the sample size. The study revealed that there was a gender disproportion between the male and female respondents about 70.3% of participants were male and the rest 29.7% of them were female. The implication here is that the organizations for the future try to balance the sex of staff members.

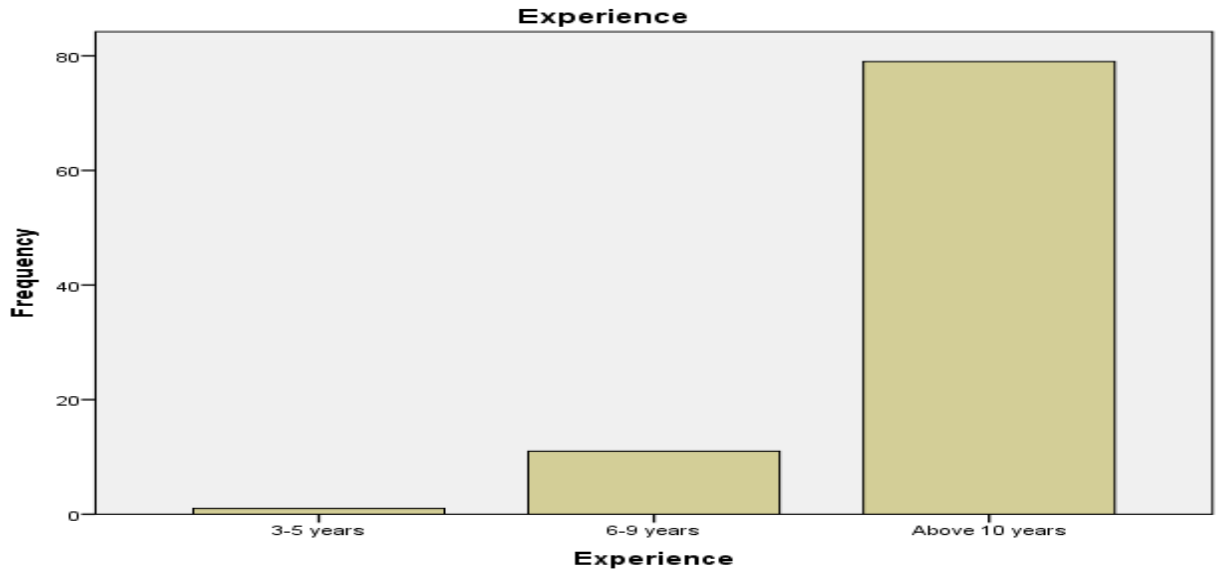
Bar Graph 4.2 Age of the respondent



SPSS Output - Survey Questionnaire

The above Table 4.2 illustrates most of the respondents' age is ranged between 41-51 years old this indicates that most of the management groups in the company show that at the middle age. And the next respondent management groups are at the age of 31-40. This indicates that the second most respondents of the management groups are relatively young. The third group of the respondent are above 51 years and the last respondents have the age of 18-30 years old, it shows about the age of the respondent 41-50 were mostly participated in our study ethio telecom focus on the age of the workers.

Bar Graph 4.3 Work experience of the respondent



SPSS Output - Survey Questionnaire

The study shows that majority of the respondents have more experience in the ethio telecom business process implementation. Among the participants of the study, 86.8% the more experienced, 12.1% with medium experienced, and another 1.1% were with a low experienced. This figure is highly informative for more experienced were solute the problems of the ethio telecom business implementation process.

Table 4.1 Age of the respondent

Age	Frequency	Percent
Valid	18-30	3.3
	31-40	38.5
	41-50	50.5
	Above 50	7.7
Total	91	100.0

SPSS Output - Survey Questionnaire

The above Table 4.1 illustrates most of the respondents' age is ranged between 41-51 years old which is 50.5% & of the respondents, this indicates that most of the management groups in the company show that at the middle age. And 38.5% of the respondent management groups are at the age of 31-40. This indicates that the second most respondents of the management groups are

relatively young. The third group of respondents which is 7.7% of the respondent groups are above 51 years and 3.3% of the respondents have the age of 18-30 years this implies it shows about the age of the respondent 41-50 were mostly participated in our study ethio telecom focus on the age of the workers.

Table 4.2 Educational level of the respondent

Educational level		Frequency	Percent
Valid	Diploma	1	1.1
	First Degree	57	62.6
	Second Degree	33	36.3
	Total	91	100.0

SPSS Output - Survey Questionnaire

As indicated in Table 4.5 above the sample of respondents who participated in the study are characterized by many First-degree holders (around 62.6%), 36.3% are second-degree holders and the third respondent of holders are 1.1%. the result shows that the respondents of the study in educational level were mostly in the level of the first degree, ethio telecom to solve the problems of business processes implementation upgrading the organization worker of educational status and employee excellence skill manpower.

Table 4.3 Work Position of the respondent

Work Position		Frequency	Percent
Valid	Directors	45	49.4
	Supervisors	38	41.8
	Employees	8	8.8
	Total	91	100.0

SPSS Output - Survey Questionnaire

The study revealed that more participants of this study are Directors of the ethio telecom. (See table 4.3). Accordingly, 49.4% of participant's directors of the ethio telecom workers the next is staff member is supervisors 41.8% and the third is an employee which is 8.8% respectively. This

implies that in this study large number covers by directors of the ethio telecom worker and the next were supervisors, secondly covered by the supervisors the latter is employees.

Table 4.4 work experience of the respondent

Work Experience		Frequency	Percent
Valid	3-5 years	1	1.1
	6-9 years	11	12.1
	Above 10 years	79	86.8
	Total	91	100.0

SPSS Output - Survey Questionnaire

Based on the data collected through the questionnaire, around 86.8% of the respondents are over 10 years of experience. And 12.1% of the respondents are between 6-9 years of service and 1.1% of the respondents are between 3-5 years. This indicates that in the company to become in the management position at list 10 years and above experience in the managers, directors and on the top position job have to more experience is better to solve the business processes implementation.

Table 4.5 working division of the respondent in the organization

	Work Divisions	Frequency	Percent
Valid	Technical Division	57	62.6
	Commercial Division	14	15.4
	Support Division	20	22
	Total	91	100.0

SPSS Output - Survey Questionnaire

From the total respondents, the technical division has covered which is 62.6% of the respondent and Commercial Division contributes 15.4% of respondents. The remaining proportion is support division (22%) so ethio telecom made on the technical division either increase the number of technical division staff or try to increase the excellent skill of technical division, summarize on the above table of 4.5.

Table 4.6 Level of awareness on company business process

No	Independent Variable	Strongly agree		Agree		Neutral		Dis Agree		Strongly Disagree	
		no	%	no	%	no	%	no	%	no	%
1	Do you have a clear awareness of the ethio telecom business Process implementation?	1	1.1	24	26.4	66	72.5	0		0	
2	Will your business process implementation improve your day-to-day activities?	57	62.6	30	33	4	4.4	0		0	
3	Is there a lack of clarity on the business process and implementation in the company?	4	46.2	34	37.4	20	22	22	24.2	6	6.4
4	Will your business process implementation improve the efficiency of your work?	44	48.4	42	46.2	4	4.4	1	1.1	0	
5	Do you think business process implementation is necessary for your Division/department/section/group to work?	82	90.1	7	7.7	2	2.2	0		0	

SPSS Output - Survey Questionnaire

As shown the above table the respondents say neutral (72.5%), strongly agree (1.1%) and agree (24.4%), their attitude of having clear awareness on the ethio telecom business Process implementation this implies the respondent their haven't little knowledge or has low awareness on the company business process implementation information. the other finding is there lack of communication clarity on business process and implementation in the company 46.2% of the respondent strongly agree there is communication on business process.

On the second independent variable, the respondent mostly agrees (62.6%) with the business process implementation can improve their day-to-day activities' effect on the organization performance the remaining agree (33%), natural (4.4%).

The respondent says on the variable is there lack of clarity on business process and implementation in the company strongly agree (46.2%), agree (37.4%), natural (22%), disagree (24.2) and the remaining are strongly disagree (6.4%) this implies the majority of the population agree with their have lack of clarity on business process and implementation and its effect on the level of awareness on company business process.

The respondent says on the variable business process implementation will improve the efficiency of your work strongly agree (48.4%), agree (46.2%), natural (4.4%) and the remaining are disagree (1.1%) this implies the majority of the population agree with business process implementation will improve the efficiency of your work on business process and implementation and its effect on the level of awareness on company business process in ET.

The respondent says on the variable Business process is necessary for your division/department/section/group strongly agree (90.1%), agree (7.7%) and remaining are natural (2.2%) this implies the majority of the population agree with the Business process is necessary for your division/department/section/group on the problem for business process implementation and its effect on the organization performance on ethio telecom, on the above table level of awareness on company business process most of the respondent strongly agreed to aware the respondents to solve the problems of business implementation in the institution.

Table 4.7 Support from management to effectively implement business process

No	Independent Variable	Strongly agree		Agree		Neutral		Dis Agree		Strongly Disagree	
		no	%	no	%	no	%	no	%	no	%
1	Does your immediate supervisor support you to implement a new or revised business Process?	31	34.1	47	51.6	9	9.9	4	4.4	0	
2	Does your immediate supervisor support you consistently to use and implement the business process?	29	31.9	43	47.3	13	14.3	6	6.6	0	
3	Is business process implementation supporting your efficiency of the day-to-day activities to achieve ethio telecom mission and vision?	38	41.8	43	47.3	9	9.9	1	1.1	0	

SPSS Output - Survey Questionnaire

As shown in the above table the respondents say on the variable support from management (immediate supervisor support you to implement new or revised working system) agree (51.6%), strongly agree (34.1%), neutral (9.9%) and the remaining disagree (4.4%) this implies that the supportive management agrees with the immediate supervisors support you to implement new idea on the problem for business process implementation and its effect on the organization performance on ethio telecom, regarding this variable the respondent agreed immediate supervisors must be supported to the implementation of the business process policy strategy and producers.

The respondent says on the independent process implementation supporting your efficiency of the day to day activities to achieve ethio telecom mission and vision strongly agree (41.8%), agree (47.3%), neutral (9.9%) and the remaining (1.1%) this implies the majority of the population agree with the immediate supervisor support you consistently to use and implement the business process on the problem for business process implementation and its effect on the organization performance on ethio telecom, in this independent variable the respondent agreed immediate supervisors support the workers to the implementation of business continue constantly.

The respondent says on the independent variable business process implementation supporting your efficiency of the day to day activities to achieve ethio telecom mission and vision strongly agree (41.8%), agree (47.3%), neutral (14.3%) and the remaining disagree (1.1%) this implies the majority of the population agree with business process implementation supporting your efficiency of the day to day activities to achieve ethio telecom mission and vision on the problem for business process implementation and its effect on the organization performance on ethio telecom, the result shows the respondent agreed the organization managements must support the day to day performance of workers to the implementation of ethio telecom business process implementation mission and visions.

Table 4.8 Effectiveness of Business process implementation for day to day operation

No	Independent Variable	Strongly agree		Agree		Neutral		Dis Agree		Strongly Disagree	
		no	%	no	%	no	%	no	%	no	%
1	Organizational level business process assessment and implementation test conducted regularly.	72	79.1	16	17.6	3	3.3	0		0	
2	Do you think the lack of a system/tool is the main reason and problem for organizational business process implementation?	24	26.4	39	42.9	11	12.1	17	18.7	0	
3	Luck of business process implementation impacting your day-to-day performance.	23	25.3	45	49.5	13	14.3	9	9.9	1	1.1
4	Actions plans are clear for business process implementation to improve the performance of day-to-day actions.	28	30.8	38	41.8	18	19.8	6	6.6	1	1.1
5	Does your division consistently ask for business process improvement and automation support for day to today operation efficiency improvement?	7	7.7	19	20.9	42	46.2	20	22	3	3.3
6	You are clear about the link between the business process and implementation.	20	22	57	62.6	13	14.3	1	1.1	0	

SPSS Output - Survey Questionnaire

As shown in the above table the respondents say on the variable Organizational level of business process performance can be improved using implementation agree (79.1%), strongly agree (17.6%) and the remaining are neutral (3.3%) this implies that the respondent strongly agreed Organizational level of business process performance can be improved using implementation are the effects of problems of business process implementation.

The respondent says on the independent variable lack of system/tool is main reasons and problems on organizational business process implementation strongly agree (26.4%), agree (42.9%), neutral (12.1%) and the remaining (18.7%) this implies that the respondent agreed lack of system/tool is main reasons and problems on organizational business process implementation are the effects of problems of business process implementation.

The respondent says on the independent variable lack of business process implementation impacting your day to day performance strongly agree (25.3%), agree (49.5%), neutral (14.3%), disagree (9.9%) and the remaining are strongly disagree (1.1%) this implies that the respondent agreed lack of business process implementation impacting your day to day performance are the effects of problems of business process implementation.

The respondent says on the independent variable Mechanism and way out are clear for business process implementation to improve performance of the organization at high level strongly agree (30.8%), agree (41.8%), neutral (19.8%), disagree (6.6%) and the remaining are strongly disagree (1.1%) this implies that the respondent agreed with mechanism and way out are clear for business process implementation to improve performance of the organization at a high level are the effects of problems of business process implementation.

The respondent says on the independent variable parameter to assess business process is aligned and automated across the company strongly agree (7.7%), agree (20.9%), neutral (42.2%), disagree (22%) and the remaining are strongly disagree (3.3%) this implies the majority of the population are neutral means Parameter to assess business process is aligned and automated across the company there haven't effect on the business process implementation.

The respondent says on the independent variable clear about the link between the business process and implementation strongly agree (22%), agree (62.6%), neutral (14.3%) and the remaining are disagree (1.1%) this implies the majority of the population were agree on means there haven't of

a clear link between the business process and implementation there has a great effect on the business process implementation.

Table 4.9 Participation in Business process improvement and review

No	Independent Variable	Strongly agree		Agree		Neutral		Dis Agree		Strongly Disagree	
		no	%	no	%	no	%	no	%	no	%
1	Questioners, assessment, and face-to-face interviews are conducted to measure the effect and performance of business process implementation?	13	14.3	48	52.7	15	16.5	12	13.2	3	3.3
2	Do you assess the effectiveness of your business process implementation?	4	4.4	39	42.9	27	29.7	20	22	1	1.1
3	Your participation is necessary while designing a new business process or revising existing working systems.	59	64.8	28	30.8	2	2.2	0	2	2.2	

SPSS Output - Survey Questionnaire

As shown in the above table the respondents say on the independent variable the questioners it that have effect and performance of the business process and implementation strongly agree (14.3%), agree (52.7%), neutral (16.5%), disagree (13.2) and the remaining (3.3%) this implies that the respondent agrees (52.7%) assessment and face to face interviews are conducted to measure the effect and performance of the business process and implementation there have effects on the performance of business process implementation.

In the Business process improvement and review item two says on the independent variable personal performance measurements are linked to business process implementation strongly agree (4.4%), agree (42.9%), neutral (29.7%), disagree (22%) and the remaining are strongly disagree (1.1%) this implies the majority of the respondent were agree means personal performance

measurements are linked to business process implementation have a great effect on the business process implementation.

In the Business process improvement and review item, three says on the independent variable participation is necessary while designing a new business process or revising existing working systems strongly agree (64.8%), agree (30.8%), neutral (29.7%), disagree (22%) and the remaining are strongly disagree (1.1%) this implies the majority of the respondent were strongly agree with participation is necessary while designing a new business process or revising existing working systems so, the organization has to design new business plan implementation, proclamation, and strategy of the business implementation process.

Table 4.10 open indeed question

No	Independent Variable	Yes		no	
		no	%	no	%
1	Is there a business process policy in your organization	76	83.9	15	16
2	Do you think that the business process and implementation performance benefit ethio telecom?	87	95.6	4	4.4
3	Do you think the current business process and implementation facilitate work effectiveness	69	75.8	22	24.2
4	Did ethio telecom have a business process and implementation policy?	72	79.1	19	20.9

SPSS Output - Survey Questionnaire

Regarding the above table, the respondent there have known of business process policy in your organization, and have awareness of the business process and implementation performance benefit of ethio telecom and the respondent there have clear ideas of organizations business process and implementation policy.

Table 4.11 Open question & comment given by the respondent

Variable	no problem	give awareness to proper implementation of the business processes and maximize profitability	alignment business processes implementation not fully done and system affected by the internal and external case	lack of availability of BP implementation, case and lack of awareness	policy strategy and business processes plan problems
What are the major problems that your department is facing concerning the impact of business process automation and implementation?	33%	9.9%	9.9%	35.2%	12.1%

SPSS Output - Survey Questionnaire

The above table shows the major problems the organization stated by the respondents around 35.2% of the respondents have lack of awareness, so, the institution has to create awareness' in a different scope area, 33% of the respondent says no problems, 12.1% of the respondent says there have problems of policy strategy and business processes plan the institution were reworking the business plan, policy and strategies and the remaining were 9.9% on the institution there have the problems alignment BP implementation not fully done and system affected by the internal and external case and give awareness to proper implementation of the PB and maximize profitability.

Table 4.12 Open question & comment given by respondent

Variable	no idea	lack of creating awareness	Create awareness giving training incentives and acknowledgment
Is there anything that you want to comment on the current impact of business process automation and implementation	49.5%	8.8%	41.8%

SPSS Output - Survey Questionnaire

Regarding the above table, the current impact of business process implementation the respondent says the major impact of business process implementation was lack of awareness and awareness giving training incentive and acknowledgment the rest were haven't idea.

Table 4.13 Dependency of day to day work on a working system

No	Independent Variable	None		20%-40%		40%-60%		60%-80%		80%-100%			
		no	%	no	%	no	%	no	%	no	%	mean	St.d
1	How much of your day to day work activity is supported by the working system	3	3.3	7	7.7	21	23.1	32	35.2	28	30.8	1.044	0.2061

SPSS Output - Survey Questionnaire

As it can be seen in Table 4.6, of item 1 the sample respondents were asked about how much of your day to day work activity is supported with a working system. Accordingly, the workers with ($X=1.0440$, $SD= 0.20613$) confirmed that ethio telecom moderately meets the How much of your day to day work activity is supported with a working system. This is, therefore, the problem for business process implementation and its effect on the organization's performance on ET. Besides, there was slight variation and differences among the sample respondent.

4.3 Correlation Analysis

Table 4.14 correlation analysis at variable level *SPSS Output - Survey Questionnaire*

Variables	Correlation value	Df	p-value
Age of the respondent	-0.0373*	2	0.000
Work Position of the respondent	0.282**	3	0.007
Experience of the respondent	-0.260*	3	0.013
You have a clear awareness of the ethio telecom working systems (business Process, Policy, and procedure).	-0.316**	4	0.002
Your immediate supervisor support you to implement new or revised working systems (business Process, Policy, and procedure	-0.280**	3	0.007
Does your immediate supervisor support you consistently to use and implement the business process	-0.271**	3	0.009
Lack of business process implementation impacting your day-to-day performance.	0.238*	3	0.023
Parameter to assess business process is aligned and automated across the company	-0.268*	6	0.010
You are clear about the link between the business process and implementation.	-0.251*	6	0.016
Assessment and face-to-face interviews are conducted to measure the effect and performance of business processes and implementation.	-0.480**	3	0.000
Your participation is necessary while designing new business processes or revising existing working systems	-0.218*	3	0.038
Do you think the current business process and implementation facilitate work effectiveness at your division/department and section	0.255*	1	0.015

As shown in below table the significant correlation between Independent variables (Work Position, lack of business process implementation impacting your day to day performance and the current business process and implementation facilitate work effectiveness at your division/department and section) with Effect of Business Process Implementation on Organizational Performance in the case of ethio telecom with Work Position ($r= 0.282, p <. 05$), lack of business process implementation impacting your day to day performance ($r= 0.238, p <.05$) & the current business process and implementation facilitate work effectiveness at your division/department and section ($r = 0.255, p < 0.05$) which shows Work Position, lack of business process implementation impacting your day to day performance and the current business process and implementation facilitate work effectiveness at your division/department were positively, significantly, and moderately correlated to dependent variable (problems of business processes implementation). While the significant correlation between Independent variables age ($r= -0.0373, p<0.05$), job of experience ($r= -0.260, p<0.05$), have clear awareness on the ethio telecom working systems business Process, Policy and procedure ($r= -0.316, p<0.05$), immediate supervisor support you to implement new or revised working systems business Process, Policy and procedure ($r= -0.280, p<0.05$), immediate supervisor support you consistently to use and implement the business process ($r= -0.271, p<0.05$), Parameter to assess business process is aligned and automated across the company ($r= -0.268, p<0.05$), clear about the link between the business process and implementation ($r= -0.251, p<0.05$), Assessment and face to face interviews are conducted to measure the effect and performance of business process and implementation and participation is necessary while designing new business process or revising existing working systems ($r = -0.480, p<0.05$), participation is necessary while designing new business process or revising existing working systems ($-0.218, p< 0.05$) which were negative, significant, and moderately correlated to dependent variable (problems of business processes implementation) so, generally the above independent variable were significant correlation with the dependant variable means the independent variable were factors of the research tittle.

4.4 Analysis of ANOVA

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.861	3	.954	6.003	.001
Within Groups	13.820	87	.159		
Total	16.681	90			
Between Groups	2.581	4	.645	3.935	.006
Within Groups	14.101	86	.164		
Total	16.681	90			
Between Groups	1.195	2	.597	3.394	.038
Within Groups	15.487	88	.176		
Between Groups	1.681	2	.841	4.932	.009
Within Groups	15.000	88	.170		
Total	16.681	90			
Between Groups	1.550	3	.517	2.970	.036
Within Groups	15.132	87	.174		
Total	16.681	90			
Between Groups	2.665	3	.888	5.513	.002
Within Groups	14.017	87	.161		
Total	16.681	90			
Between Groups	1.430	3	.477	2.719	.049
Within Groups	15.251	87	.175		
Total	16.681	90			
Between Groups	2.252	4	.563	3.356	.013
Within Groups	14.429	86	.168		
Total	16.681	90			
Between Groups	2.977	3	.992	6.300	.001
Within Groups	13.704	87	.158		
Total	16.681	90			
Between Groups	4.165	4	1.041	7.154	.000
Within Groups	12.517	86	.146		
Total	16.681	90			
Between Groups	1.081	1	1.081	6.166	.015
Within Groups	15.601	89	.175		
Total	16.681	90			

From one-way ANOVA shows the significance of Independent variables on the dependent variables Effect of Business Process Implementation on Organizational Performance in the case

of ethio telecom. ANOVA checks whether the variable is significantly explained Effect of Business Process Implementation on Organizational Performance in the case of ethio telecom as the outcome by using the p-value as age, position, time of stay at the work, clear awareness on the ethio telecom working systems (business Process, Policy and procedure), immediate supervisor support you to implement new or revised working systems (business Process, Policy and procedure), business process implementation supporting your efficiency of day today activities to achieve ethio telecom mission and vision, Lack of system/tool is main reasons and problems on organizational business process implementation, Parameter to assess business process is aligned and automated across the company, You are clear about the link between the business process and implementation, assessment and face to face interviews are conducted to measure the effect and performance of business process and implementation, and Do you think that the business process and implementation on organizational performance benefit ethio telecom to serve that objective, which is significant at $p < 0.001$, 0.006, 0.038, 0.009, 0.036, 0.002, 0.049, 0.013, 0.001, 0.000, 0.015 (0.05). This result shows there is significantly explained the above independent variable the problems of business processes implementation, means the above significant variables were the factors of ethio telecom business process implementation.

On the above table show the organization to solve problems of business implementation process made on the age of staff, revise age of the staff, employee to the organization young mind master workers secondly the organization must be check the job position of the business department and to open new necessary position and the present position checking it that make the position of business implementation depend on the police strategy and plan of the business process implementation or not, next the institution have to create awareness of the organization implementation business process in different ways and the organization media and communication department made advertise and promote the organization business implementation process for instance in social media made on the organization Facebook page, telegram, magazines post the organization business implementation policy and strategy, immediate supervisor must support the day to day activity of business implementation workers, and also the organization must be fulfill the raw material and tools to support the business processes implementation and create strong linkage of the organization day to day activity and business policy of the organization business department.

CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATION

This is the last section of the research, which presents the research summary of the findings, conclusion, recommendation, and further research directions on the topic as follows:

5.1. Summary of the Findings

Findings regarding the general information

This study focuses on the assessment of business process automation and implementation. The total population under study is 4980. Thus, the sample was selected from Manager (Technical, commercial, and support) Divisions, Supervisor and employee with the actual number of the respondent of 91. So, 91 questionnaires were prepared and distributed by the researcher to the respondents and 7 selected managers' interviews were conducted.

In addition, a document from the process management department was reviewed for the analysis of the secondary data. The major statistical tools of business processes automation and implementation to analyse and interpret the data were descriptive and inferential statistics. Frequency and percentage were also used to analyse quantitative results.

Generally, the study answers the following research questions:

1. What are the practices for ethio telecom business process automation and implementation?
2. What affects the business process implementation at different divisions?
3. What is the challenge of the division of ethio telecom to effectively implement the business process?
4. What is the reason for low automation of business process automation & implementation?

Ultimately, the study has come up with the following major findings,

Regarding the gender of both respondents, the data revealed that 70.3% of male respondents is higher than 29.7% of female respondents of current workers of the three positions of those managers, supervisors, and employees. This implies that a large proportion of the three categories of ethio telecom workers is male. most of the respondents' age is ranged between 41-51 years old this indicates that most of the management group in the company show that in the middle age. And the next respondent management groups are at the age of 31-40, This indicates

that the second most respondents of the management groups are relatively young. Regarding work experience 86.8% of the respondent has more than 10 years of experience and followed by, 12.1% are between 6-9 years of experience, the sample of respondents participated in the study are characterized by many First-degree holders (around 62.6%), 36.3% are second-degree holders and the third respondent of holders are 1.1%. the result shows that the respondents of the study in educational level were mostly in the level of the first degree.

Findings regarding research question 1 Level of awareness on company business process on the effectiveness of business process automation & implementation assessment.

The data analysis revealed that 72% of the respondents have neutral or limited ideas & awareness of the company business process automation and implementation assessment actions, 62% of the respondent aware & agree business process and automation will improve their day to day activates, 46% of respondents agree they lack clarity in the business process automation & implementation. The data analysis revealed that the problem for business process automation & implementation assessment in ethio telecom can be improved using different implementation follow up and techniques, such as awareness, training, and appropriate system/tool deployment for business process automation & implementation, 48% of respondents agree on business process automation improves efficiency and 90% of the respondent agree on the necessity of business process automation & implementation.

The main effects of business process implementation: -

- Lack of availability of correct system/tool for business process implementation.
- Lack of creating enough & continuous awareness.
- Lack of giving training and incentive for good performers.
- Luck of clear policy & strategy on business processes automation & implementation.

Findings regarding research question 2 Support from management to effectively implement business process.

The data analysis revealed that 51.6% of respondents agree they get sufficient support from their immediate supervisors to implement and automate business processes, and 47.3% of respondents agree they get continuous support from their immediate supervisor on business processes

implementation, and about 47.3% of respondents believe business processes automation and implementation improves their day to day efficiency.

Findings regarding research question 3 Effectiveness of Business process implementation for the day-to-day operation.

The data analysis revealed that 79.1% of the respondents strongly agree automation improves effectiveness on day-to-day operation, 42.9% of the respondent agree lack of system/tool for business processes automation impacting their efficiency, 49.5% of respondents believe they lack impacting the write business processes, 41.8% of respondent believes there are way out for improvement of business processes automation implementation, 46.2% of respondent believes on the process automation alignment, 62.2% respondent are clear on the link b/n business processes and automation.

Findings regarding research question 4 Participation on Business process improvement and review

The data analysis revealed that 52.7% of respondents agree they do an assessment and participate in business processes automation and implementation, 42.9% of respondents agree business processes automation participation should be linked with personal performance, 64.8% of respondents strongly agree their participation is necessary on business processes design & improvement.

Key Parameters needed to be aligned by the company to create a better and workable business process implementation across the company

- Visualize – functions and processes business implementation processes of ethio telecom
- Measure – determine the appropriate measure to determine the success business implementation processes of ethio telecom.
- Analyze – compare the various simulations to determine an optimal improvement
- Improve – select and implement the improvement business implementation processes of ethio telecom.
- Control – deploy this implementation and by use of user-defined dashboards monitor the improvement in real-time and feed the performance information back into the simulation model in preparation for the next improvement iteration business implementation processes of ethio telecom.

5.2 Conclusion

The result obtained above can give us evidence to conclude that the most important factors (variables) that the problem for business process automation & implementation in ethio telecom are obtained from descriptive statistics using graph and correlation table, the graph shows large numbers of workers are male and working experience was above ten years the main effects on organizational business process automation & implementation were lack of system/tool, awareness, and training.

On the cross-tabulation table result shows educational level were strong negative correlation with the dependant variable so, this variables were problem for business process implementation in ethio telecom to solve this problems of implementation of business process the organization must employe purely qualified experts and must increase the number of educated and more experienced experts in the area of business process management, the correlation values of experience were negative correlation means the organization doing action to or employe more experienced workers, check the day to day working reports, performances, all managers and working supervisors improve the efficiency of works, all business process activity include with all level of staff workers, immediate supervisors have to support the employe of the ethio telecom workers to the implementation of organizational business processes, open new idea of business implementation processes in ethio telecom to link between business process implementation & automation, to solve the problems of the company and also compare and contrast the business process implementation with other international telecom company, share experience for the business process management department employees with international telecom practise.

5.3 Recommendation

This research has shown the problem for the effectiveness of business process implementation and its automation in ethio telecom. The results obtained confirm there are problems of the business process implementation & automation, based on the findings of this study, the following recommendations are proposed to help effective business process automation & implementation in ethio telecom.

- ethio telecom process management department should take the responsibility to identify business process categorization such as core process, critical processes, and non-critical processes that help to focuses on selected are of its business.

- ethio telecoms to solve the problems of effective business automation and implementation there must be a new business process and automation management policy at the company level.
- The company should invest in business process management systems/tools (BPM), training, and continuous awareness creation platforms and enhance its employee's knowledge and behavior.
- In ethio telecom, the business process management department's employees should be highly experienced & knowledgeable on the company business process end to end in all areas technical, commercial, and support.

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Appendix One

ADDIS ABABA UNIVERSITY
College of Business and Economics
Executives Master of Business Administration Program


QUESTIONNAIRES FOR THE RESPONDENT

Dear respondent

The purpose of this questionnaire is to gather primary data to assess the "*Effect of business process and implementation on organizational performance in the case of ethio telecom.*" Concerning working systems (Process, Policy, and Procedure) and OLA at Division/ Department and section level. The researcher is grateful for your cooperation and assures you that all the information gathered will be kept confidential. You don't need to write your name on the questionnaire and since the data is processed and analyzed in aggregation your answer cannot be separately identified. Your cooperation in giving genuine and frank answers to the questionnaire is highly crucial to obtain relevant and reliable information for the success of this study.

Thank you for your cooperation.

General direction

You are kindly requested to put a color on the "  " mark in the circle provided in front of each alternative

answer for each question; write your opinion and justification on the space provided for each questions.

I. PART I: GENERAL PURPOSE QUESTION

- 1 Sex: Male Female
- 2 Age: 18-30 31-40 41-50 51 and above
- 3 Education Level Diploma First Degree Second Degree Third Degree

- 4 Work positions Chief executive office (CXO) Director Manager
 Supervisor Employee
- 5 work experience ≤ Two years 3-5 years 6-9 years above 10 years
6. Please indicate your functional Division/work unit with the organization.
 Technical Commercial Support

7. Please indicate your role in the organization

- Chief Executive Office (CXO) Expert
 Director Supervisor
 Manager (including project manager) Employee
 Other; please specify _____

PART II: INFORMATION RELATED TO BUSINESS PROCESS AND IMPLEMENTATIONS

Directions: Please respond to the following questions by encircling the number provided in the table (5, 4, 3, 2, and 1). 5 Or put uniformly color on the number (5, 4, 3, 2, and 1).

1. Level of awareness on company business process						
No.	Dimensions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Do you have a clear awareness of the ethio telecom business Process implementation?	5	4	3	2	1
2	Will your business process implementation improve your day-to-day activities?	5	4	3	2	1
3	Is there a lack of clarity on the business					

	process and implementation in the company?	5	4	3	2	1
4	Will your business process implementation improve the efficiency of your work?	5	4	3	2	1
5	Do you think business process implementation is necessary for your Division/department/section/group to work?	5	4	3	2	1
2. Support from management to effectively implement business processes.						
No.	Dimensions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	Does your immediate supervisor support you to implement a new or revised business Process?	5	4	3	2	1
2	Does your immediate supervisor support you consistently to use and implement the business process?	5	4	3	2	1
3	Is business process implementation supporting your efficiency of the day-to-day activities to achieve ethio telecom mission and vision?	5	4	3	2	1
3. Effectiveness of Business process implementation for day to day operation						

No.	Dimensions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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1	Organizational level business process assessment and implementation test conducted regularly.	5	4	3	2	1
2	Do you think the lack of systems/tools is the main reason and problem for organizational business process implementation?	5	4	3	2	1
3	Lack of business process implementation impacting your day-to-day performance.	5	4	3	2	1
4	Actions plans are clear for business process implementation to improve the performance of day-to-day actions.	5	4	3	2	1
5	Does your division consistently ask for business process improvement and automation support for day to today operation efficiency improvement?	5	4	3	2	1
6	You are clear about the link between the business process and implementation.	5	4	3	2	1

4. Participation in Business process improvement and review

No.	Dimensions	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
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1	Questioners, assessment, and face-to-face interviews are conducted to measure the effect and performance of business process implementation?	5	4	3	2	1
2	Do you assess the effectiveness of your business process implementation?	5	4	3	2	1
3	Your participation is necessary while designing a new business process or revising existing working systems.	5	4	3	2	1

Appendix Two

1. How much of your day-to-day work/activity is supported with working systems (Process, Policy, and procedure)?
a) None b) 20% - 40% c) 40% - 60% d) 60%- 80% e) 80%-100%

2. Is there a business process policy in your organization? What is the objective
3. of the business process as stated in policy manual?

4. Do you think that the business process and implementation on organizational performance benefit ethio telecom to serve that objective?

5. What are the major problems that your department is facing concerning the impact of business processes and implementation on the performance of the organization?

6. Do you think the current business process and implementation facilitate work effectiveness at your division/department and section? _____

7. Did Ethio Telecom have a business process and implementation policy?

8. Is there anything that you want to comment on the current impact of business process and implementation on organizational performance?