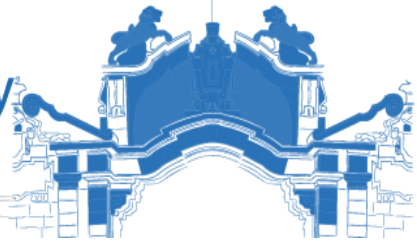




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**ASSESSMENT ON PROJECT PORTFOLIO MANAGEMENT  
APPROACHES IMPLEMENTATION PRACTICE  
THE CASE OF IT PROJECTS IN BANK OF ABYSSINIA**

BY

HABTAMU DEGEFAW WORKIE

**GSE/5940/10**

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF  
THE REQUIREMENT FOR THE AWARD OF MASTER OF ARTS  
DEGREE IN PROJECT MANAGEMENT**

**Advisor: Dr. BAHRAN ASRAT**

**JUNE; 2020**

**ADDIS ABABA ETHIOPIA**

**ADDIS ABABA UNIVERSTY**

**SCHOOL OF COMMERCE**

**DEPARTMENT OF PROJECT MANAGEMENT**

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**JUNE; 2020**

**ADDIS ABABA; ETHIOPIA**

## **DECLARATION**

I hereby proclaim that the work which is being presented in this project paper entitled “Assessment on project portfolio management approaches implementation practice; the case of IT projects in the bank of Abyssinia” is my original work, has not been presented for a degree in any other university and that all sources of material used for this thesis have been properly acknowledged.

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HABTAMU DEGEFAW WORKIE

JUNE; 2020

## **STATEMENT OF CERTIFICATION**

This is to certify that Habtamu Degefaw Workie has carried out his research work on the topic entitled to “Assessment of project portfolio management approaches implementation practice; the case of IT projects in the bank of Abyssinia”. The work is original in nature and is fit for submission for the award of Master Art Degree in Project Management.

Advisor: **BAHRAN ASRAT (PhD)**

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

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## **ABSTRACT**

*The purpose of this study were identifying challenges of developing the Project Portfolio Management approaches and evaluates organizations effort to adopt project portfolio management approach on IT projects at Bank of Abyssinia. Works of literature were reviewed based on PPM process groups and investigate the practice and challenges of the case organization to the way of developing a project portfolio management approach in the realty. To attain it; descriptive research design was employed and both primary and secondary were used as data sources. Questionnaire for all staff of IT programs of case organization and an interview for selected top managers was as a source of primary data; while, document analysis and website were secondary data collection instruments. The data that found through the questionnaire was analyzed quantitatively using descriptive statistics through SPSS software version 23; based on the literature review and the data that will attain using interviews and an open-ended questionnaire was analyzed qualitatively. Accordingly; organizations practice on project portfolio management process groups' development was found to be satisfactory; even there are many downsides under each process group. So the study result found that; each process groups was not effectively employed and a direct responsible department to sustain best practice and improve drawback wasn't existed. The main challenging factor that hinders for the full utilization of such approaches according to the research result were: ineffective human resource management practice; problems to adopt new work culture; inadequacy of knowledge and experience; unproductive project management; lack common understanding and inadequate shared vision. For tackling such problem the case organization have to be establishing separated responsible department and improve the skill of existing parties partially responsible for it. Besides; developing procedure and criteria for recruitment of team members and build permanent experienced employees for project works are the recommended solution for such problems.*

**KEY WORDS:** Program, Program management, Project Portfolio management, Strategies; Implementation.

## **ACRONYMS**

**BOA** - Bank of Abyssinia

**CEO**-chief executive officer

**IT** – Information Technology

**R&D**-Research and development

**PMBOK** - Project Management Body of Knowledge

**PPM**-Project portfolio management

**PMI** - Project Management Institution

**PMO** - Project Management Office

**PMO**-project management office

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# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the study

To run into their purpose of existence every organization has to be performing works. Even works are generally involved either projects or operations; the objective of project is to attain the project objective and close it while; the objective of operation is normally to sustain the overall business objective (PMBOK; 2013). Yet; according to Beset 2007 Project Management is becoming increasingly recognized and more organizations began to gain its benefits. After sometimes however; project management approach faces difficulty of choosing project among numerous alternatives compete for scarce resources, sustainability, adoptability of extremely changing environment as well meeting the overall strategies of the organization(Beset 2007).

New challenges of project management impose the new practice of enterprise level of management approach called project portfolio management (Mhajlovic 2010). According to him; Project portfolio management (PPM) processes are not only seen enterprise level strategies as the end line objective of project, but also look for program and operation activities to the attainments of strategic objectives and more advanced approach to manage projects. Levine, 2005 correspondingly approve this argument as project portfolio management solves key problems of project oriented organizations: overcomes the gap between operating and project management and becomes a core of all organizational activities. PPM is a concept of managing all projects as an integrated and dynamic complex aiming strategic goals (Levine, 2005).

According to Wynsock, (2014) definition; project portfolio is a collection of projects that share some common link to one another. According to him; whatever resources organizations have available, it will not be enough to meet all project requests for a given portfolio and that is where project portfolio management takes over its vital position. So the same author re-define; it as a grouping of projects, programs and other project-related activities and responsibilities in one side and pave the way to decide the right and balanced projects that can achieve organizational objective in the other side and its process includes; establishing the investment strategy of the portfolio, determining what types of projects can be incorporated in the portfolio, evaluating and prioritizing proposed projects, constructing a balanced portfolio that will achieve the investment objectives, monitoring the performance of the portfolio, and periodically adjusting the contents of the portfolio in order to achieve the desired results (Wynsock, 2014)

An Article by Pajares (2014; PP-646) was also assembled in to two process groups called alignment and operational processes. According him; the output of alignment processes is a set of candidate projects to

form part of the portfolio, ranked according to its contributions to firm value and strategic objectives while; Operational processes are related to multi-project management to the coordination of the joint execution of individual projects and therefore, they include project scheduling in multi-project environments, resource allocation among projects, integrated cost management, etc.

Yet; in practices PPM and its approaches for many organizations are inconsistent. Few project-oriented organizations are employed well; while others are used partially or totally ignore the concept. Even more; organizations who strive to adopt such process face various difficulties; more than project implementation. Ivan Mihajlovic et al (2010) cited as Project portfolio management implementation is a complex phenomenon among others within the project portfolio management as a new concept of the management science. According to him; the phenomenon is considered first, as a phase of the overall project portfolio management process, and then as a specific projects itself.

The present-day Bank of Abyssinia was established on February 15, 1996 (90 years to the day after the first but defunct private bank was established in 1906 during Emperor Menelik (II)). In two decades since its establishment Bank of Abyssinia has registered a significant growth in paid up capital and total asset by implemented four five year strategic plan (BoA annual report 2018/19). According to the report; Bank of Abyssinia had achieved a significant incremental in all aspects of key indicators in comparisons of the banks history. In an effort to bring sustainable growth and profitability, there have been various activities and projects undertaken throughout the Bank.

The bank also set operational excellence; digitalization, sustainable growth and optimal allocation of the resources as the main future strategic direction to successfully accomplish its new strategic plan beside current status (BOA annual report 2019/18). In order to address strategic issues identified in the course of strategy crafting, and to ensure continuous improvement in all areas of the Bank's businesses, different strategic initiatives have been developed and are being implemented currently. Among the initiatives, 12 of them are identified to be IT Projects. To successfully implement these projects, the bank has instituted project Management Office (PMO); who is responsible for the centralized and coordinated management of the IT Projects. The strategic initiatives identified, prioritized and programmed for implementation have been developed by the alignment level of the strategic objectives. These initiatives are part of the digitalization objective of the Bank by providing an electronic payment platform under IT programs (BOA annual report 2019/18).

Considering the vital role to implement organization strategy and challenges of developing project portfolio management process and approach on the other hand; some common understanding on the major challenges of adopting these approaches and capturing the best experience by investigating the right way of solving the existing problem is essentials for very company. Therefore; the study was intend to carry

out a project work, to identifying challenges of developing the Project Portfolio Management approaches and investigating organizations effort to adopt effective project portfolio management approach on IT projects at Bank of Abyssinia.

## **1.2 Statement of the problem**

Project portfolio management is seen as a new concept of the management science and the greatest improvement in the project management field (Mihajlovic; 2010). Yet; academic literatures on this concept reveal that adapting this approach effectively has provided a great deal of effect on companies' strategic achievements consistently throughout the project. An article by Ali Mosavi and et al 2008 was shown that; an organization to stay competitive they need to find a way to link the corporate strategies with their projects and programs/Project Portfolio Management would be a good choice. Cooper et al (2000), was also found out that; maximize return on R&D and technology spending, maintain the business's competitive position, properly allocate scarce resources, forge the link between project selection and business strategy and achieve a stronger focus are the main reasons that portfolio management has gained prominence.

Accordingly; a project oriented organization should be committed to address project portfolio management approaches consistently throughout their programs/projects to be successful; harvest the above benefits and being competitive. Yet; many companies have face difficulties to implement project portfolio management approach and techniques. US publication by a noted IT research firm cited that "90% of US companies do not employ a true portfolio management strategy due to problems they face" (Gartner Group, 2001). Further, only little has been written in the literature about companies experience difficulties when trying to implement PPM Ali Mosavi (2008).

Lack of epistemological clarity also impairs appropriate debate among professionals on portfolio project management approach since it is often misunderstood or misinterpreted (Norie, 2006). Cooper et al. (2000) have pointed to several reasons underpinning the inherent difficulty of managing portfolios: The decision environment is very dynamic; there are interdependencies between projects; projects in the portfolio are at different stages of completion; the information required to make project selection is uncertain at best and unreliable at worst; resources to be allocated across projects are often limited or even scarce. Furthermore, studies of the challenges in organizations implementing project portfolio management are rather few (Hristova& Müller, 2003).

Banking industry is subject to more competitive; dynamic and uncertain industries; these problems may intense and strong emphasis should be given to the overall project portfolio management approach. Fast changes in the communication landscape and financial industries, resulting from technological change

and the development of new services, are affecting the core business of banking operations in one side and empirical evidence scarcity more than other industry on the other side could be evidenced from the above argument.

From preliminary investigation with program manager of BOA it has been indicated that implementation of portfolio project management approach in its full practice is limited on credit department. Accordingly; implementing this approach for the IT program and other product development department is challenged for different reasons. These challenges for developing PPM approach is starting from lack of epistemological clarity to techniques and tools adaptations and challenges are related with resource mobilization and lack of skill, knowledge and tools for portfolio project management and schedule management.

Considering this; identifying challenges of developing the Project Portfolio Management approaches and evaluate efforts to adopt its effective approach under bank of Abyssinia IT-projects would be the purpose of this paper. To achieve it; evaluation of project portfolio management process groups in the literature and comparison analysis would be made to find out practices of the case organization to the way of adopting effective project portfolio management approach and investigate the main factors that hinder to developing it. Through systematically investigating such problems; the possible remedies would be proposed finally.

### **1.3 Research question**

In view of these problems; the study would be tried to answer the following five particular questions evidenced from responses of the case organization.

1. What were the alignment practice of case company and strategic directions in its programs?
2. What were the project selection practices for developing PPM approach under the case company?
3. What were efforts to wards of developing PPM approach; while managing their project/ program?
4. What were the major tools and techniques employed to practice PPM process groups?
5. What were the main challenges facing the case company via developing PPM practice?

### **1.4 General objective of the Study**

The ultimate objective of this paper was investigating challenges of developing the Project Portfolio Management approaches and evaluates efforts to adopt project portfolio management approach on IT projects at Bank of Abyssinia.

### **1.4.1 Specific objectives**

Given the particular questions mentioned above and considering the ultimate objective; the research paper was tried to achieve the following particular objectives;

- ❖ Examine the alignment process group practice of bank of Abyssinia IT-program.
- ❖ Evaluate selection practice for developing PPM approaches under IT projects of BOA.
- ❖ Find out PPM implementation practices employed in IT-projects BOA.
- ❖ Assess the major tools and techniques employed to practice PPM process groups in the case organization.
- ❖ Identify main bottlenecks of developing PPM approach in IT projects of BOA.

### **1.5 Significant of the study**

As literature shown; the concept of project portfolio management approach is recent and lack of findings, contrasting to its vital impact to achieve strategic goals. So; this study would contributed to some academic knowledge on project portfolio management approaches; techniques and challenges facing during its development in the case organization context. The study would also significant to executive managers, project support office, program managers; project managers and project team leader to have a common understanding on how portfolio project management should be conducted and to deal with its challenges in a cooperative and better way.

On the basis of the research finding; the study expected to give some clue to solve the existing problem and be publicize with best program/project portfolio management practice of the company and so that it is expected to enable the managers of the program to make decisions which will provide a beneficial environment for the case company.

Finally; this project work helps to initiate other project works in project portfolio management profession to do further study on this new and advanced concept by developing their own case. Specifically; this study provides insight for the practice of adopting PPM approaches and main challenges of overall banking industry and pays attention for further research on this concept not only banking industry but also other organizations with multiple case.

### **1.6 Scope/Delimitation of the study**

Project portfolio management is simultaneously governing more than two projects and required deep investigation of project knowledge area and project life cycle management in detail as portfolio level. However; this paper would focused on investigating the project portfolio management development challenges and evaluating the case organizations effort to the adaptations of project portfolio management

approaches under their programs. This overall portfolio level analysis couldn't be addressed detail project level assessments and all concepts under portfolio management approach wouldn't be addressed well, as per the major objective of this paper.

The scope of the research delimited in terms of geographic location. Although; Program implementation areas are throughout the country (districts); this paper was planned to takes most of the primary data for study from the organizations head office and IT project sites in Addis Ababa city. Principally project portfolio management decisions are made and most challenges are faced for higher executives and program managers. Yet; districts that are implement projects may have different efforts and attitude about project program/project management practice to wards portfolio management approach and may face different challenges for developments of project portfolio management approach.

Descriptive research design with primary and secondary data was the main methodology of this paper. The relations of each portfolio management approach with organizational strategies achievement was not the concern of this design and scope of this paper. The way of sampling for the interview and census for survey would also be another methodological delamination of the study. Both the survey and the interview in this study was conducted among a relative small number of participants that are employed under the banks IT projects and volunteer to respond. Furthermore it would be interesting to conduct this research for more than one case and among different organization.

### **1.7 Limitation of the study**

This project work had some limitations under its implementation period even under its scope. Since; case research is resource and time consuming, thrilling time constraint might be one major limitation for the paper. Beside very stiff time schedule; unexpected world epidemic deaths COVID-2019 was aggravated it. COVED-19 was not only limitation for schedule overrun; but also real challenges of the paper until enforced to changing the case organization. Since the most target population of the project is higher and middle management level of the project portfolio and program manager; there would also be difficulties to respond both questioner and interviews as the project designed and it might face lower response rate. However, the researcher would tried to identify both delimitation and limitation difficulties and designed contingency plan to make the project work relevant and gone as smooth as possible.

### **1.8 Research organization**

This research paper is organized into five chapters together with the abstract, references and appendices. Chapter one is introduce the research and give the descriptions of the research which includes; background of the study, statement of the problem, and objectives of the study, scope and limitation as well as organization of the paper. Chapter two also provides the theoretical and empirical background. In

this chapter; a review of topics concern to project portfolio management approaches, their systems and main challenges to develop improved approach was made.

Following the review of the literature, in chapter three, the research design was presented in detail, this chapter is provide important information about how the study was conducted and that could be include; research design type, study area, data type; collection instruments and way of data analysis. The fourth chapter of the study is about the implementations of research design. Accordingly; secondary data and the primary data collected from different instruments was present and analyze. Lastly, chapter five presents findings, conclusion and recommendation of the study.

## 1.9 Operational definition of key Terms

The terms used in the study may have difference conceptual definition. To make clear it and minimize ambiguity; precisely clarify the operational definition of key term is relevant and displayed as follows:

- ❖ **Program** a temporary, flexible organization created to co-ordinate, direct and oversee the implementation of a set of related projects and activities in order to deliver outcomes and benefits related to the organization's strategic objectives.
- ❖ **Program management:** the coordinated organization, direction and implementation of a portfolio of projects and activities that together achieve outcomes and realize benefits that are of strategic importance.
- ❖ **Project Portfolio management:** a coordinated collection of strategic processes and decisions which enable the most effective balance of organizational change and business as usual.
- ❖ **Strategies:** Investment direction for a given organization
- ❖ **Implementation:** Developing or adopting or undertake or putting in to practice of a given approaches

# CHAPTER TWO

## REVIEW OF RELATED LITERATURE

### 2.1 Introduction

This chapter would provide the clear descriptions of the concepts via providing theoretical and empirical evidences. It would be comprise the theoretical and empirical literatures. The main aim of a literature review was to examine all relevant and recent developments on a particular subject and developing base-line findings for comparison analysis of the single case study. Theoretical reviews related to the concept were made in the sufficient detail first and the empirical evidence mainly on PPM approach development challenges were identified consequently.

### 2.2 Theoretical literature

This part would provide the detail understanding of project portfolio management and related concepts concept. Nature of Project portfolio management and related concept and its implementation importance; process /stages and challenges would be reviewed here below.

#### *2.2.1 Nature of Project portfolio management and related concept*

This part of theoretical literature wants to show project portfolio management and related concepts. Origin, meaning and nature of project portfolio management concept would be describe first and reviewed project portfolio management related concept. Program/project management; organizational strategies; project support office and tools and techniques and its linkage with project portfolio management were the main concepts of this literature would incorporate.

##### **2.2.1.1 Meaning and characteristics of Project portfolio management**

A project portfolio management implementation review by (Mihajlovic 2014) was tried to show the developments of project portfolio management rooted from the new challenges of project management. According to this review; one of the new millennia beginning characteristics is immense development of project oriented activities and the situation enthrone PM concept as an answer on many actual project management challenges. But a new serious challenge emerges such as numerous project alternatives compete for scarce and limited resources asks it to solve the new problem and to respond to the urgent request of the time a new project portfolio management concept emerged(Ibid).

Norie (2006) also shown that; the origins of project portfolio management lie in the theoretical domain of finance specifically capital allocation and investment portfolio theory. Markowitz (1959) was among the first to construct a model securities portfolio selection. He presented the idea for basic notion of balancing

a portfolio between risk and return is common knowledge and is understood as an overarching objective of sound financial management, both personally and corporately. Challahan & Brooks , (2004) on the other side confirmed that the foundation for implementing project portfolio information within an organization is the existence of project management at some level within the organization and optimum circumstance is to have implemented strategic project management by breaking down the walls that exist between the strategic, tactical, and operational levels of the organization.

Different authors have been defined the concepts of project portfolio management in numerous ways. It is the art and science of applying a set of knowledge, skills, tools, and techniques to a collection of projects, in order to meet or exceed needs and expectations of an organization's investment strategy (Penny packer, 2002). Markhofer, (201) also defined PPM as a tool-supported process for optimally selecting and managing the organization's portfolio of projects. PPM is centralized management of one or more portfolios, which include identifying, prioritizing, authorizing, managing and controlling projects, program and other related work to achieve specific strategic business objectives (PMI, 2006). McDonough and Spital(2013) also indicated that project portfolio management is the day to day management of the portfolio including the policies, practices, procedures, tools and actions that managers take to manage resources, make allocation decisions and ensure that the portfolio is balanced in such a way to ensure successful portfolio-wide new product performance.

Apart from many definitions; common topics for discussion in project portfolio management includes alignment of the projects to the organization's goals, resource allocation and total amount of projects in the portfolio, methods for project selection and prioritization, control and monitoring, information flow, organizational learning, challenges in the implementation and resistance to change, among others Hristova & Muller,(2003).

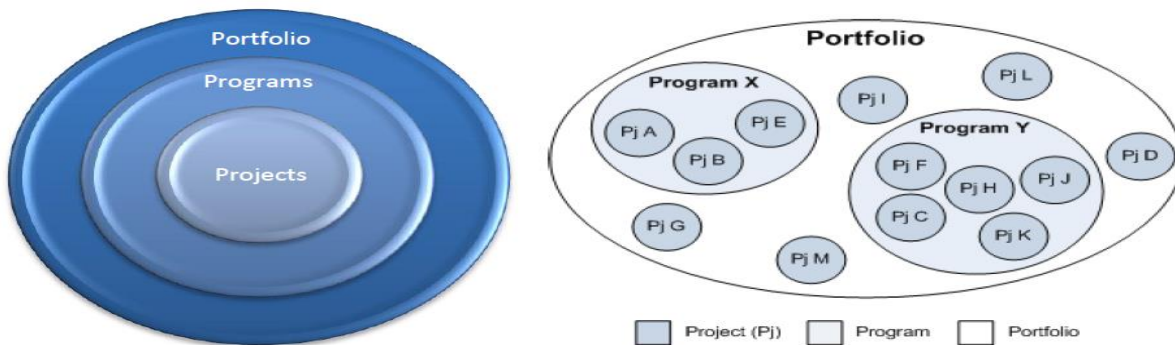
### **2.2.1.2 Project Management, Program Management and Project Portfolio Management**

Wideman (2014) was tried to differentiate these three words briefly. According to him project is a temporary endeavor undertaken to create a unique product, service or result; whereas program is a group of related projects, subprograms, and program activities managed in a coordinated way to obtain benefits not available from managing them individually and Portfolio refers to Projects, programs, sub-portfolios, and operations managed as a group to achieve strategic objectives. Bonnie, (2015) also tried to differentiate Portfolio management; projects management and program management as executing the right projects; executing projects right, and the management of group of related projects that all contribute

to the same business objective or benefit respectively. According to him; the program as a whole has a clear defined goal, and each project within the program assists in meeting those goals.

Waysoky, (2014) was also shown distinction between project portfolio management to project management. Accordingly; project management looks to focus on an individual project’s road to completion, whereas project portfolio management takes into consideration every project or potential project and its viability to meeting overall business goals. And there are ways in which project portfolio management support the fundamentals of project management such as; to avoid project management disasters by pointing out good projects versus bad projects, offers a clear path to prioritization that allows project managers to create flexible timetables, lists what team members and project managers are available and helps to assign monetary value to a project. The concept of program on the other hand according to waysoky (2014) is about includes multiple related projects which together achieve strategic benefits. So; the portfolio includes all projects and programs in an organization.

Teller et al., (2012) in their study spectacle that both single project management and project portfolio management formalization are directly connected to portfolio success. Portfolio management aligns components (projects, programs, or operations) to the organizational strategy, organized into portfolios or sub-portfolios to optimize project or program objectives, dependencies, costs, timelines, benefits, resources, and risks (PMBOK, 2013). A broad view on portfolio management includes aspects of both portfolio and program management studies, including management of interfaces between projects and co-ordination of collections of projects, and management in accordance with resource and other constraints (Ibid).



Source: [Rajegopal et al., 2007, 12]

Figure 1: Relation between projects, programs, and the portfolio

### 2.2.1.3 Project portfolio management and strategy of an organization

The first major element of portfolio management is to identify opportunities and determine if those opportunities are in line with the corporate strategic direction. In a sense, this may be the identification

and initial screening of projects before more in-depth analysis is conducted (Packer & Sepate, 2002). According to them; several things to be considered such as to develop a process to identify opportunities and make it easy to follow; establish a template for project justification as part of the process; establish minimal acceptance criteria as part of the process; reward ideas and suggestions-give credit where credit is due; make sure clear strategic direction and business goals have been established.

So; project portfolio management involves managing the process of translating the strategy and objectives into the right projects and then focusing the execution of these projects on the delivery of overall strategic objectives (Fidan & Bramwell, 2011). As mentioned by Morgan (2013), the ultimate goal of linking portfolio management with organizational strategy is to establish a balanced, executable plan that will help the organization to achieve its goals. A strong portfolio management capability gives executives the power to link projects to create value for the overall organization, furthering strategic goals and building performance-sustaining capabilities that empower the Organization (PMI, 2015).

Therefore; to drive strategy execution, organizations need to develop and execute a strategy-driven project pipeline. This means project requests generally follow strategy in response to the question “What do we need to do to implement this strategy. In this scenario, the exercise of aligning existing demand and ongoing project activity with the strategic agenda becomes the exception rather than the rule Oyj, (2014). Project portfolio management, often referred to as simply portfolio management, is forward looking. If one can't see the future of the organization by looking at its portfolio, there is no chance of getting there (PMI, 2015). So; the portfolio management plan has to be established for managing the portfolio and to accomplish a strategic transformation.

#### **2.2.1.4 Tools and techniques of portfolio project management approach**

According to Sarbazhosseini 2013; tools and techniques can be seen as three main categories on basis of their main benefits in the portfolio management implementation. Hence; each category contains list of tools as follows: Strategically aligned tools and techniques are Top down, Bottom up approach and combination, Mathematical models; achieving the balanced portfolio: Portfolio Maps, Bubble diagrams, Histogram, Bar charts, Pie charts, mathematical models and Maximizing the value of portfolio: Scoring models, Analytical Hierarchy Process, Economic Methods, Payback Time, Net Present Value (NPV), Internal Rate of Return, Return On Investment (ROI), Monte Carlo and decision tree, Cost/Benefit Analysis.

Decision making as a techniques in portfolio management is often characterized by uncertainty, insufficient information, dynamic opportunities, multiple objectives, several strategic considerations,

different locations, interdependence among projects and high number of decision makers (Cooper and et al.2000;). While discussing about its implementation, there are three styles of portfolio project management decision techniques: Top-Down, Bottom-Up, and a mixture of both. The Top-Down style of portfolio management starts with the high-level strategic initiatives while; Bottom-Up approach works the opposite way of Top –down style and last approach is to blend of the two, which allows projects to be drawn out by the strategy, as well as allow project ideas to surface from anywhere and be reviewed for their merits (Rosenstock, 2002).

Whatever tools we used and decision the techniques employed; the major area of portfolio management is the development and selection of the project portfolio (Pennypacker & Sepate, 2002). According to them; the questions to ask here are: Which projects should be selected? How does the project relate to the entire portfolio and how can the project mix be optimized? Selection process of project portfolio management is basically about identifying opportunities; assessing the organizational fit; analyzing the costs, benefits, and risks; and developing and selecting a portfolio. The selection of an individual project is performed using a set of criteria on which each project is scored and Identified potential projects are then analyzed to determine their feasibility Kerzner; et al (2009). There are two major components of project selection in project portfolio management. The first component is project ranking; the second is portfolio balancing in which, firms would typically decide to terminate a project either due to its performance or in favor of another project (PMI, 2008).

Archer and Ghasemzadeh (1999) advise that, prior to selecting any individual project; a firm must set strategy development guidelines to ensure the alignment between resource allocation and strategic focus. According to them however; in many instances, direct financial impacts, such as Return on Investment, Return on Average Investment, Pay Back Period, Net Present Value, Internal Rate of Return, Expected Value and Economic Value Added, have become primary considerations of firms' strategy development and focus and in the situation where projects are influencing each other, aligning resource allocation and strategy focus merely based on financial considerations may not be sufficient because certain projects needed for the success of others may be disqualified due to financial considerations.

Strategic Alignment metrics, as the name suggests, are designed to determine the strategic fit of the projects and portfolio. These metrics require some degree of scoring, which is quite often a subjective process. If a firm outlines strategic categories, then the projects that make up the proposed portfolio can be assigned a score on these items, indicating how well it serves the strategic goal (Rosenstock, 2002). The Value/Cost Performance metrics is; which are certainly one of the key indicators that is used in project selection. This collection of analytics is designed to point out what the company is spending money on, how that investment will return, how the spending compares with company history or competitors and how the value/cost relationship will stand across a portfolio of projects (Popper, 2000).

### **2.2.1.5 The Role of PMO and PSO for Project portfolio management**

According to (Wosky 2014); in an extremely volatile environment, organizations need solutions that will ensure optimal management of multiple projects to function effectively and these organizations appoint specialized organizational units referred to as Project Management Office (PMO); whose mission is to create and deliver the solutions mentioned above. Taylor, (2012) sets PMO in a business or professional enterprise is typically the department or group that defines and maintains the standards of process that are generally related to project management, within the organization. The basic definition of PMO by Project Management Institute (2011) is "An organizing body or agency assigned by multiple responsibilities associated to centralized and coordinated management of projects".

As mentioned by Iplanware, (2011) most PMO's developed into a center of excellence for project management and can provide guidance and coaching to beginner project managers or new project managers who need to understand how the organization runs projects. Builds up a common set of practices for managing projects; a standardization means project managers and creating project management templates are among some benefits PMO according to him.

Pennypacker & Sepate, 2002 on their study also shown that; another nature of supporting office for project management; Strategic Project Office can be mentioned. Accordingly; the SPO is an organizational entity responsible for mapping strategy to projects and monitoring projects and portfolios to ensure they continue to address strategic initiatives, even as these initiatives change over time. It serves as the critical link between executive vision and the work of the enterprise. The SPO, a relatively small, yet high-end and strategic group, connects executive vision with the work of the organization. While the SPO may perform traditional project office functions, its expanded strategic functions include: assessing and promoting project management maturity; creating a project culture; integrating processes and systems enterprise-wide; ensure enterprise-wide project quality; managing resources across projects and portfolios; and project portfolio management.

### **2.2.2 Project portfolio management approach implementation**

This part of theoretical literature mainly focused on the implementations of project portfolio management approach. This involved that; the stage of project portfolio management approaches implementation; the worth of employing it for the organization and major challenges to adopt it. This part of literature is the extension and detailed investigations of background and statements of the problem in chapter one of this paper and would strengthen the understanding of the concept. Let's consider project portfolio management approaches implementation stage first.

Project portfolio management implementation as a phase of project portfolio management process covering preparation and planning activities is usually followed by activities of execution and harvest

including: authorization, activation, reporting, review of benefits and changes, (Wideman, 2007). Waysoky, 2014 on the effective project management sets the life cycle Project Portfolio Management in five phases: as establish; evaluate; prioritize; select and manage. Levine, 2005; also condense project portfolio management as an iterative process including three principal phases: selection of projects for portfolio, portfolio maintenance and portfolio management on which this paper depends on. According to him the most critical step is the phase of projects selection which is, in fact, initial step of project portfolio management implementation. Article by Pajares (2014) was also re-condensing the process groups of project portfolio management as alignment and operational processes.

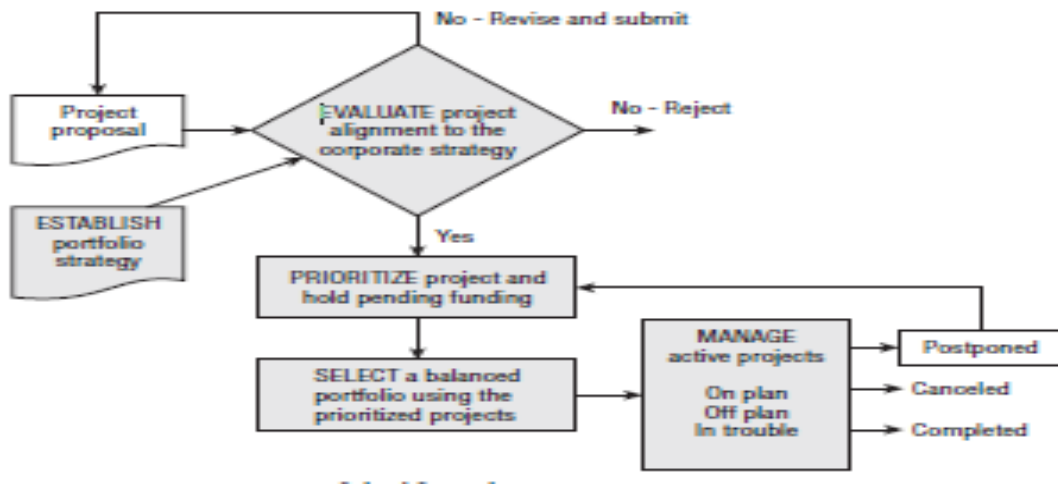


Figure 2; Project portfolio management life cycle source: Waysoky, 2014

Accordingly; the first step in the implementation of portfolio management is deciding the strategy for the portfolio and that is, how will the enterprise’s resources be spread across the portfolio. Once this investment strategy is in place, the enterprise will have a structure for selecting the investment opportunities that will be presented in the form of project proposals Waysoky (2014). The next stage of implementation of project portfolio management is choosing the projects for a project portfolio simply means applying the criteria that have been established by strategy, balance, and maximizing value concerns of the organization(Challahan & Brooks, 2004). This stage is basically about addressing the vital question of which projects are worth of time, cost and investment performance. It is strategic question to any organizations in their selection and management of project portfolio (PMI, 2006).

According to Waysoky (2014) the proceeding tactical step in every portfolio management model involves prioritizing the projects that have been shown to be aligned with the portfolio strategy. This alignment places the project in a single funding category and those projects in a funding category to be prioritized. Selecting a balanced Portfolio using the prioritized list is the next stage in project portfolio management

(Ibid). According to him; there are two approaches to select balanced portfolio and first one is to make one master list of prioritized projects and the other approach is to separate projects into buckets, and then prioritize the projects. Usually the second approach is preferred because prioritizing a single list, which can be long, is difficult. And this approach avoids situations in which there could be a wide variance between the resources that are being requested and those that are being offered in each category (Ibid).

Managing active projects is the successive step having balanced portfolio of projects in the implementation of project portfolio management (Bird, 2016). It started with giving appropriate resources to get started and active projects should then be constantly evaluated to ensure that they continue to meet the criteria with the resources that were assigned to it. According to Waysoky, (2014); active projects under the portfolio can be in one of three statuses: on plan, off plan, or in trouble and constantly evaluate and determine the states of each project whether or not they continue to meet the criteria is vital to make a right decision. During the evaluation phase, performance results from all projects are assembled, the results synthesized considering their relative importance, and adjustments made to address performance issues and/or changes in organizational strategy (Ibid). Bird (2016); also stated monitoring and evaluation phase as; a constantly examining portfolio management process to ensure that the decisions being made are in line with the organization's goal. According to him; changes to improve the process, perhaps by eliminating obstacles, improving the information or combing steps in the process should be done.

So adopting the project portfolio management and its approach effectively would be deliver financial and non-financial benefits as evidenced from different research results. An article by Ali Mosavi et al (2008) stated that organization to stay competitive they need to find a way to link the corporate strategies with their projects and programs and sighted that Project Portfolio Management may be a good choice. Needs (2014) on his finding for the advantage of project portfolio management reveal some great benefit of employing PPM approach as minimizes risk; maximize resources utilization and reduce project costs through eliminating duplicate effort. Challahan and Brooks (2004) on the importance of project portfolio management approaches were also summarized in to three groups such as; to link all projects to the company's strategy, to balance the portfolio of projects and to maximize the value of the Portfolio. According to him; project portfolio management approves only those projects that are aligned with strategy, fit within the correct balance, and represent the maximum return. The other ways of project portfolio management support is for the fundamentals of project management; which is to avoids project management disasters by pointing out good projects versus bad projects and offers a clear path, to prioritization that allows project managers to create flexible timetables, lists what team members and project managers are available and it helps assign monetary value to a project Waysoky, (2014)

Yet; project portfolio management implementation is not as easy as managing single projects. Hence a variety of challenges emerged, which need to be tackled by managers, along with many opportunities for increasing the organizational effectiveness Boneva (2014). Ivan Mihajlovic et al (2010) cited as Project portfolio management implementation is a complex phenomenon among others within the project portfolio management as a new concept of the management science. According to him; the phenomenon is considered first, as a phase of the overall project portfolio management process, and then as a specific projects itself. There are also considerations of the project portfolio management implementation specific requirements, problems and final benefits for the organization able to complete it successfully (Ibid).

An article appeared in Research Technology Management by Cooper et al, (2000) reported an in depth research that has probed these issues and has identified four main challenges or problem areas in portfolio management approach such as resource balancing; prioritizing projects against each other; making go/Kill decisions in the absence of solid information and too many minor projects in the portfolio. Mc Farlan, (2003) also reflects on similar problems such as project portfolios are deviating away from overall company objectives and manage their portfolios as a collection of projects, rather than as an integrated portfolio to be grouped together and viewed as an integrated whole. He also proposes; Projects should be grouped together and viewed as an integrated whole and understand organizations portfolio by looking at it through different lenses as a solutions for the mentioned problems:

A study conducted by Elonen & Arto, (2003), also distinguished some of challenges of implementation of project portfolio management approaches such as inadequate project level activities, lacking resources, competencies and methods, lacking commitment, unclear roles and responsibilities, inadequate portfolio level activities, inadequate information management and inadequate management of project-oriented business. Levine, (2005) also defines problems associated with portfolio management such as how to implement project portfolio management, ranking value and benefits, the size of the portfolio pipeline, the impact of uncertainty on projects and portfolios, and the benefits/risks relationships. These problems causes the implementation seldom resulting with an ideal project portfolio including projects aligned within strategies and resources in a manner of a perfect puzzle (Madic, 2009).

Finish authors group (Martinsuo et al., 2007) identified six groups of problems and problem areas encountered in project and portfolio management in some matrix organizations such as: inadequate project level activities; lacking resources, competencies and methods; lacking commitment, unclear roles and responsibilities; inadequate portfolio level activities; inadequate information management and inadequate management of project-oriented business.

Generally; by grouping projects into portfolios and effectively adopt its process groups organizations can better tie their projects to meeting strategic goals and gain success on individual projects. Portfolio

management can also help organizations do a better job of managing its human resources managements by hiring, training, and retaining workers to support the projects in the organization's portfolio. Yet; the process of attaining strategic goal by selecting strategically aligned; appropriately balanced and right numbers of projects to maximize the value of portfolio is not easy task for many organizations. Unfortunately no one project portfolio model can deliver on all this goals, and so best-practice businesses tend to use multiple methods to select their projects. Finally, any selection method is better than none at all (Cooper et al., 1998).

By considering the vital role to implement organization strategy in one side and complexity of the project portfolio management process in other way; needs some common understanding of the common challenges of adopting these approaches and recommend contextual experience by investigating the right way of solving the existing problem is the rational of the study. Therefore, program/portfolio managers need to understand how projects fit into the bigger picture of the organization, especially in terms of corporate strategy, finances, and business risks. They also create portfolios based on meeting specific organizational goals, such as link all projects to the company's strategy; balance the portfolio of projects and maximizing the value of the portfolio or making.

### **2.3 Empirical literature**

This empirical evidence is the identifications of challenges faced in the process groups of project portfolio management approach and it adaptation process. It also supports theoretical evidence above and aimed to find the research gap between the already revealed findings to set a base for contrast analysis related to project portfolio implementation challenges. Yet; empirical study on the challenges of the project portfolio management approach has not as much of project as well reported due to project portfolio management is a rather new area of interest to the academics Mihajlovic; (2010). Also, establishing PPM is a high-risk initiative. Failures are not uncommon. Furthermore, studies of the challenges in organizations implementing project portfolio management are rather few (Hristova& Müller, 2003). Before revealing in to the existing literature on the problems of adaptation and implementing project portfolio management approach; considering on its practice have be agreeable.

Pm solution; (2005) reported that; the greatest benefits of project portfolio management are for organizations that better align their projects to business strategy and that they now work on the right projects; but fall short in helping their organizations kill poor projects and allocate resources optimally. Choudhuri; (2015) reported his research on challenges of project portfolio management tried to identified the main impediments that; the reasons why most project portfolio management practices fail and advised that; understanding the common challenges of implementing project portfolio management and ensuring to have a solution to them or ways around them will help increase the success factor of PPM practices.

Stanleigh; (2010) also revealed that many corporations are suffering from project failures, reaching up to billions of dollars in losses. A global research report done by BIA Canada showed that the major reason for these failures is the misalignment of projects with organizational strategy.

Cooper et al. (2000) have pointed to several reasons underpinning the inherent difficulty of managing portfolios such as; decision environment dynamism; projects interdependencies; projects in the portfolio are at different stages of completion; the information required to make project selection is uncertain at best and unreliable at worst and resources to be allocated across projects are often limited or even scarce. Ali Mosavi (2008) finding on the challenges in Developing PPM instructed that; in order to implement project portfolio management with success, all organizational dimensions (people, tasks, tools, and structure) and their respective challenges need to be taken into consideration. According to him the most challenging was occurred in changing the process of project selection and developed prioritization methods in the company and organizational structure change; decision making (people change); developed computerized software (tools change) are respective challenges listed by the researcher next to process change.

According to Kendall and Rollins, (2003) the four main reasons of project failures are too many active projects, projects not linked to strategic goal, wrong projects, and unbalanced portfolio. Another scholar also stated that one of the most common challenge faced by organizations, especially new or rapidly-growing businesses, is a shortage of people who are both qualified to manage a project portfolio and have the availability to do it (Bunner, 2016). According to him; a company's top projects managers are usually busy with the day-to-day needs of critical projects and don't have time to devote to strategic, long-term considerations. Maio et al 1994, also shown the main causes of strategic failure which; are the need to manage project interdependencies assuring their mutual compatibility at portfolio level and product innovation problems from which we can see the increased consideration in resourcing from then.

Akeyedin projects blog lead by L.Need for identifying internal challenges and barriers to project portfolio management adaptation over 20 years' experience were also identified 10 key challenges and barriers to PPM adoption faced by most organizations. According to them: Internal Politics and Culture: Appropriate Sponsorship; Project Management Maturity; Management Commitment: A Common Approach; Pet Projects: Pace of Adoption; Human Nature; Financial Investment; Avoid the Big Brother Syndrome; <http://www.keyedin.com> accessed April 2020 A recent article by Herman Steyn (2018) on the project portfolio management pitfall in Namibian Mining companies has tried to identify some new problems that are not described in the literature. According to him: poor distinction between strategic and operational projects; inexperienced project teams; long-term strategic projects that had to be funded by operational cash flow and the adoption of a strategy that is not focused well enough.

As shown from the literature above; project portfolio management application knowledge's are falls short and so many challenges also faced in many organizations; which strive to develop project portfolio management approaches. It can be understood that the implementation of project portfolio management for many organization had been a challenge and many organizations practice in its implementation have been found insignificant. Furthermore, Hristova & Muller, (2003) in their research report on the implementation of project portfolio management, they stated that studies of the challenges in organizations implementing project portfolio management are rather few. Therefore, conducting a research on the implementation challenges of project portfolio management approach is essential to come up with an extensive recommendation.

# **CHAPTER THREE**

## **RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter would be provided the detailed descriptions of the research methodology that was employed in this project work. Research design, area of the study, population of the study, data collection techniques and its analysis way were the main contents of this chapter.

### **3.2 Research Design**

Research design is the general plan of how research questions will be answered Saunders, et al (2009). Accordingly; descriptive research design that it enables to describe the situation using mixed data was adopted plan to realize this research objectives. A research methodology guide by kumar 2014 reveals that; descriptive study attempts to describe systematically a situation, problem, or provides information about it or describes attitudes towards the issue. Since the purposes of the papers are mostly related with kumars argument; choosing this research design would be appropriate. Regarding to study structure, case study would be relevant to investigating challenges of developing the Project Portfolio Management approaches and evaluate efforts to adopt it well with in these challenges. The approach has been selected by the researcher because it allows using different data collection techniques at different stages; such as questionnaires, structured and unstructured interviews and. And finally; mixed research approach would also employed to overcome the weakness of qualitative or quantitative approach and to provide richer understanding about the phenomenon and triangulated the data collection instrument.

### **3.3 Areas of the Study**

The study was conducted on the case of IT-program of BoA which is found in Addis Ababa. The choice of this area of the study was based on the fact that, IT-program is the center for different initiation and center for the implementations of projects for the strategic achievements of the company. As Kumar (2014); stated in selecting a case usually use purposive, judgmental or information-oriented sampling techniques as additional rationality for the case selection will be. Accordingly, the case company and its study area was selected purposively as the convenience of the researcher and observed challenge and practice by researcher's own organization initiate's the choice of case area; beside to its focus of projects.

### **3.4 Population of the study**

As evidenced from program management office; staff numbers and project team members under IT programs are varies accordingly and many among them are assigned temporarily to the specific projects. Yet; about fifty six staff members including directors of project support offices are currently involved in

the program according to him. Since, the target population would be staffs under IT-projects of the case company and considering their size in number; census could be the best fitted method for this paper. So; six team leaders, three project managers, a project support office director, program manager and forty-two project team members of the organization, would be taken as the target population of this paper. List of project participants were found from project support office of the organization and census was the best fitted method for this paper under small number of population size and case study approach to treat the total study population as one entity as cited by Kumar, (2011).

### **3.5 Data Collection Techniques**

Since; census and purposive sampling were the major techniques would be used for questioner and interviews respectively; close ended and open ended type questions were distributed for quantitative survey data to identifying facts and interviews for qualitative data to extract detailed perception. Close ended types of questionnaires were designed mainly based on the process groups of PPM approach and distributed in a 5 point Likert scales to collect data from the sample respondents. Questioners were distributed to the project managers; team leaders and team members of IT-projects. Interview would also provide for the program manager; project management support office and project manager to attain detailed information.

### **3.6 Types of Data**

The study was used both primary and secondary data to meet its objectives and generate the proper mix of the study purpose as well. Primary data would be collected using questionnaire and interviews while secondary from review of related literatures, flyers, brochures, annual reports, magazines and websites. Combining several methods in the same single study is useful to triangulate the result of each method involved. Relying on a single method also can adversely affect the reliability and validity of the results and ultimately affecting the conclusions that will be draw and the recommendations that will be made (Currie, 2005).

### **3.7 Data Analysis Techniques**

Data's that would be gathered using questionnaires and interview were analyzed quantitatively using numerical value and qualitatively using a description to identify the problems. Both method of data analysis for quantitative and qualitative data would be employed a simple SPSS statistical tools for factor analysis; encoding quantitative data and data analysis technique for basic inferential tools and simple mean or averages, frequencies and percentages. The data would be analyzed and presented so as to enable the researcher to answer the research questions and meet the objective of the study from which conclusions and recommendations were drawn.

So, here the researcher was cross checked the sample size as to how many respondents would provide consistent answers to the questions asked and whether the answers given to the questions would have close relationship in any way both manually and simple statistical tools. The collected quantitative data were coded, analyzed and interpreted SPSS version 23 is used to employ statistical tool of mean score, standard deviation and percentage to make the analysis accurate, efficient and effective. Besides; Cronbach's Alpha test and ANOVA-test were used for reliability, data collection instrument and model fitness of the study. And finally, quantitative results were supported by qualitative analysis extracted from interviews; open-ended questioners and document reference as well.

### **3.8 Description of study variables**

By considering research objectives and conceptual framework of the study; this paper concerned with two main groups of descriptive variables. Project portfolio management practice and challenges on adopting them is the fundamental focus of the research. Though; both main variables would be analyzed based on three phase process group under PPM approach; each variables has sub group and each sub group consisted with related questions under data collection instruments.

Accordingly; alignment phase practice which included; corporate strategic direction and project evaluation; selection phase which included portfolio balancing; project ranking and selection as well as management phase practice which also included, project communication; project scheduling, resource allocation and so on were the three main team for Project portfolio management practice; while process group related challenges and organizational challenges could be the second major variables under this paper.

### **3.9 Validity and Reliability**

Validity is concerned with the extent to which an instrument measures what it is supposed to measure (Kothari, 2004). Reliability on the other hand is concerned with consistency in measurement and can be examined through assessing the degree of consistency between multiple measures of a latent variable (Hair et al, 2006). For validity was given a due consideration for the study, different instrument was employed in order to take the best out of data collection techniques. Open ended, Close-ended questions, semi structured interviews were developed and literature review was used as a benchmark in order to generate a valid and comparable response. Pre-test on the questionnaire was also conducted in order to check whether the questions were understandable and clear enough for the context of respondents and some arrangements have been taken as per the result of the pre-test in order to make the instrument more valid. Cronbach Alpha test was also employed to check reliability of overall questionnaires using SPSS version 23 as a tool which is the most common measure of scale reliability test found to be 0.86 for all variables which exceed 0.70 the accepted value for Cronbach's Alpha (Field, 2009; Cohen and Sayag,

2010). Besides; reliability was tested by providing similar close-ended questionnaire from different part intentionally and cross-checking the respondents mean average level of agreement.

### **3. 10 Ethical Issues**

David & Resnik (2015), Indicated that research often involves a great deal of cooperation and coordination among many different people in different disciplines and institutions, ethical standards promote the values that are essential to collaborative works; such as trust, accountability, mutual respect and fairness. With the consideration of the above point; the study would be in line with the organizations policy in relation to any intellectual property rights of the organization and some confidential documents of the organization. Privacy of the respondents, their responses are strictly confidential and only used for academic purposes. Concerning references, all the materials and sources are properly acknowledged, research ethics would be given attention while developing and administering data collection tools and techniques. While obtain the required data; all the necessary absolute sensitivity and caution will be exercised.

# **CHAPTER FOUR**

## **RESULTS AND DISCUSSION**

### **4.1 Introductions**

This chapter is about the presentation, analysis and interpretation of data collected using questionnaire, interview and document review regarding management practice and the challenges of adopting project portfolio management approaches in bank of Abyssinia IT projects. To meet the study objectives analyzing and interpreting the survey data collected through the questionnaire and interview and discussing and linking key findings (practice) to theory would be made in this chapter. The survey data are presented and analyzed on the basis of portfolio process groups in the literature and would include three sections: general information of the collected data; management practice of respondents and the respondents' views on adapting project portfolio management challenges.

### **4.2 General Information**

#### ***4.2.1 Response rate and challenge in data collection***

This is all about data collection process; its response rate; and challenges it face while collecting the survey data and interview. Fifty five questionnaires were distributed for all IT-project staffs manually. Among them thirty nine questionnaires were replied and filled properly. Which is 71% of the total population and we could be conducted analysis.

Literature could be concluded that; portfolio/program management practices are enterprise levels of management and usually needs higher level execution commitment. Even some of its practice may not be reached under the team member level of management. Contrary to this; responsible managers were not willing to respond both the questionnaire and interview as easy as team members. So; extracting valuable information from higher managers was problematic and required much efforts of the researcher to tackle the problems.

#### 4.2.2 Respondent profile and feasibility of the collected data

Table, 1- Respondent profile (Source: SPSS Survey, 2020)

Characteristics of Respondents	Category	Frequency	Present	Valid present	Cumulative percent
Gender	M	6	15.4	15.4	2.6
	F	33	84.6	84.6	100
Age	<25	12	30.8	30.8	30.8
	25-34	19	48.7	48.7	79.5
	35-44	6	15.4	15.4	94.9
	44-54	2	5.1	5.1	100.0
Roles in the organization	Officer	31	79.5	79.5	94.9
	Team leader	6	15.4	15.4	100
	Manager	2	5.1	5.1	100
Level of education	Degree	17	43.6	43.6	43.6
	>=Masters	22	56.4	56.4	100.0
Experience	<=5	18	46.2	46.2	46.2
	11-15	7	17.9	17.9	64.1
	16-20	1	2.6	2.6	66.7
	6-10	13	33.3	33.3	100
Total		39	100	100	

The above table has shown the characteristics of respondents; in terms of sex, age, department, educational qualification and number of years working in bank of Abyssinia IT-projects. So the respondents' gender profile indicated that; 84.6% of the participants are male and the rest 15.4% are female. This could be evidenced that; the overall staffing composition of the company is highly dominated by male employees. Concerning age distribution of the respondents, 48.7% participants aged from 25 to 34 and the other 30.8% of the participant are below 25 years old. Furthermore, 15.4 % of the participants are at the age of 35-44 And the rest 2 which means 5.1% presents are above 45. This indicates that about 80% Of project participants are aged below 35 years old. Hence the company is staffed with young and energetic employees. About educational qualification the company; 56.4% of the participant have specialization at a masters' degree level and above 43.6% the total participants are first degree holders. Therefore, majority of the employees have a good status of human resource profile terms of educational background.

In relation to the specific roles of the respondents in the department; most of them are project team members/officer of IT projects who are participating in the program. They cover 79.5% of the total

participants and the next title of the participants is projecting team leader which covers 15.4% of participant. Managers who have a good experience in the organization to respond the practice of PPM approach and challenges they face to adapt are only 5.1%. Yet the researcher provides open ended questioners and interviews to extract their valuable experience for managers and project support office manager to tackle the short in numbers. Finally; number of stay in the organization would be depicted in the table above. Accordingly; 46.2 % of the respondents have not working experience greater than five years and 33.3% between 6 and 10 year of experience in the organization.

To ratify the reliability and feasibility of the data, SPSS tests such as cross-checking questionnaire item; cronbach’s alpha test and ANOVA tests were done. Accordingly; “Structure for selecting project proposals for the program was clear” was provide to the respondents in twice intentionally. The main aim of this item was to cross-check the reliability of the data. The result was found to be relatively concise to respond each items by mean score difference 0.05 and deviations from the mean difference with 0.017 as shown in the table below. This small variation for similar question at different group shows that small numbers of respondents were answered the questioner unintentionally.

Table,2-Statistical Summary for reliability test data (Source own survey 2020)

	N	Minimum	Maximum	Mean	Std. Deviation
The structure for selecting project proposals for the program was clear.	39	1	5	3.79	.801
Structure for selecting project proposals for the program was clear	39	2	5	3.74	.818
Valid N (listwise)	39				

Therefor we can concluded that the reliability of the data was so nice and this argument also supported by cronbach’s alpha test result. As we shown in the methodology part cronbach’s alpha greater than 0.6 is good and in our case 0.860 cronbach’s alpha for the reliability of the item and 0.872 for standardization of the items are fare-more the acceptable range and indicates very nice reliability

Table, 3-Statistical Summary for cronbach alpha test data (Source own survey 2020)

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.860	.872	46

Besides; to determine how well the model fitness the data and to calculate whether there is significances difference between groups some sort of f-test would be made as shown below. So the study is found to be Sig 0.00; implies the overall of model the study is statistically significance of the at 1% significance level and over all mean of the data is compatible.

Table,4-Statistical Summary for F- test data (Source own survey 2020)

	Sum of Squares	df	Mean Square	F	Sig
Between People	230.911	38	6.077		
Within People					
Between Items	184.408	45	4.098	4.817	.000
Residual	1454.679	1710	.851		
Total	1639.087	1755	.934		
Total	1869.998	1793	1.043		

Grand Mean = 3.46

Generally; apart from gender distribution; the respondents' characteristics and trustworthiness of the data imply that they can provide sufficient information for the objectives of the study and conducting analysis based on this data is feasible.

### **4.3 Program/project portfolio management process groups' practices.**

The ultimate objective of this paper would be investigating challenges of developing the Project Portfolio Management approaches and evaluate efforts to adopt effective project portfolio management approach on IT projects of Bank of Abyssinia. This part of analysis would be the evaluations of company efforts to adopt effective project portfolio management approach under its program by the employees' perception. So the three main research questions would be answered here and this was done by asking respondents to evaluate their organization's practice on specific concepts and answering their agreement on the good practices of the project by choosing as strongly agree (5) agree (4), neither agree nor disagree (3), Disagree (2) and strongly disagree (1) representing their answers from 1 to 5.

#### **4.3.1 Investment direction and alignment process group practice survey**

This part of analysis was about the investment direction of the company and the program practice to adopt alignment process groups under IT projects of BoA. For this research question five questionnaires were developed by the researcher and would be analyzed in to two parts. Accordingly; respondents was asked to respond two questions to assess their perception of investment direction clarity of case company in their programs. As presented in table 4.2 the respondents replied that the clarity of structure for selecting project proposals for the program (mean score 3.79) and resources distribution clarity across program (mean score 3.44). The average mean obtained in the strategic direction clarity question is 3.71; this implies that the practice is above average.

The remaining three questions are for the assessments respondent efforts to develop good alignment approach in their programs in the case company. As shown in the table below; the respondents replied that; existence of strong link between the organization strategy and the project objective/program strategy (mean score 3.79); the practice of carefully evaluation to align the projects with the portfolio/program strategy (mean score 3.59) and the existence relation between of projects objectives under this program and corporate goal of the organization (mean score 4.00). The average mean obtained in the alignment

efforts of potential project to strategic direction question is 3.79; this implies that the practice is above average and more efforts applied than strategic direction.

As discovered on the open ended questioner that requests to capture some good practice of the case company under its program; good project alignment with strategic direction was the most frequent list by the respondents' perception. With regard to integrating the projects/ program to organization strategy practice interview reveal that; potential projects in the program to be under take is provided by CEO and chief officers at the corporate strategy formulation time. The only practice in the meantime of strategic implementation is to be manage the project implementations as per the plan and monitoring their performance. Yet in the dynamic environment new projects may emerged and it may enforce until the change of corporate strategy before it become end; like the fourth generation corporate strategy of BOA. Potential projects that emerged after the formulations of the corporate strategies are approved their alignments by CEO and reviewed by the board of directors. If they are confident in its alignment the project would be incorporated in the program. But before it submitted to the higher management level overall validation works are made by project support office and project screening committee. Besides; the decision making of resources of the organization to spread across category of investment opportunities would follow similar hierarchy of the alignment practice as shown in the interview result.

Table,5-Statistical Summary Alignment Process Group Practice (Source own survey 2020)

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
The structure for selecting project proposals for the program was clear.	39	4	1	5	3.79	.801	.641
The project objective and organization strategy has strong link	39	4	1	5	3.97	.843	.710
The company resources distribution across Projects was clear	39	4	1	5	3.44	.852	.726
The projects alignment with program strategy was carefully evaluated	39	4	1	5	3.59	.938	.880
The projects objectives were interrelated with the corporate goal.	39	4	1	5	4.00	1.100	1.211
Valid N (listwise)	39						

#### ***4.3.2 Selection process group of project portfolio management practice assessment***

The second research question which was tried to review the effort of the company to prioritize and select balanced projects under the program would be answered in this part of analysis. For this research question

six questionnaires were developed distributed to the respondent. Accordingly; respondents was asked to respond six questions to assess their perception of prioritizing and selecting a balanced portfolio under their program.

As shown in table 4.3 the respondents replied that; the projects proposal screening criteria was not involve more of subjective decision for the program (mean score 3.44); the practice of effective SWOT analysis for proposed projects prior to their selection (mean score 3.72); the practice of considering cost/benefit analysis during evaluation/prioritization of projects (mean score 3.69); the efforts of assigning proportional weight for financial and qualitative strategic issues during projects evaluation/prioritization (mean score 3.54); the perceptions of selected projects under program/portfolio have good combination to provide maximum total benefit of the company (mean score 4.21) and the respondents opinions for selected projects were for the fact that they have a growth potential for the organization(mean score 3.87).

The average mean obtained in the prioritization and selection question is 3.75 and their average standard deviation was 0.86; implies that the practice of selection process group is above average agreement in the case and their common understanding was relatively fine. Like alignment group selecting balanced project was made prior to strategic implementation period according to top managers' interview result and this also mentioned as best practice by the respondent.

Table,6-Statistical Summary Selection Process Group Practice (Source own survey 2020)

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
The projects proposal is screening using wan not more subjective decision	39	2	5	134	3.44	.852
SWOT analysis was effectively made prior to their selection	39	2	5	145	3.72	.793
Cost/benefit was made during prioritization of projects	39	2	5	144	3.69	.922
Financial & qualitative strategic issues was get proportional weight during prioritization	39	1	5	138	3.54	.884
Projects are selected based on growth potential for the organization	39	1	5	164	4.21	.801
Selected projects under program could provide maximum total benefit	39	1	5	151	3.87	.894
Valid N (listwise)	39					

### ***4.3.3 Operation process group of project portfolio management approach practice examination.***

The third research objective that aimed to evaluate the company practices of operation process group that employed for the adaptations of project portfolio management approach under their project/programs would be analyzed here. For this research objective fourteen questionnaires were developed by the researcher and would be analyzed in to three parts which are main components of portfolio management implementations under the literature part. Accordingly; respondents was asked to respond three questions regarding their perceptions of communication practice under their projects/programs. As presented in table 4.4 below the respondents replied that; regarding communication clarity for strategic direction of the program (mean score 3.72); communication clarity of projects objective and plan to the team member (mean score 3.79) and the perceptions Of communication channel employed by the program/ project management to brings about effective risk management.(mean score 3.46) The average mean obtained in the communication ease and clarity question is 3.66; this implies that the practice is above average.

The other subsections of operation process groups of project portfolio management approach was monitoring and controlling practice under the project/program. About half of the questionnaires of operation process group practice evaluation were concerned on monitoring and controlling. The table below displayed that; the respondents' level of agreement on the practice of continuous comparison of projects performance against in the program/portfolio (mean score 3.72); on the practice of work schedule measurement to know how close the projects are performing with planned (mean score 3.51); on the practice of work spending measurement to know how close the projects compared to what was planned (mean score 3.46); on the practice of checking and cross-checking of the task status reporting the integrity (mean score 3.69) on the practice of merging the result of projects and taking a corrective measure how the project/program/ is performing with respect to both schedule and cost (mean score 3.51) and on the practice of corrective measures effectiveness to restore projects task that do not meet requirement of the plan(mean score 3.46). The average mean obtained in the monitoring and controlling efforts question is 3.66; this implies that the practice is above average their perceptions of monitoring practice under their projects/programs

The last parts under implementation process groups of project portfolio management approach was decision making and lesson learning practice. Under this part five questionnaires were delivered to the respondent and tried to capture their experience and perceptions. Accordingly; the respondents replied regarding to decision making throughout the program gives good consideration of alignment to organization strategy (mean score 3.82); on the effective practice of resources mobilization and sharing of across projects in the program (mean score 3.67); projects are considered finished when scope

items/requirements are met (mean score 3.79); Program management is handled on continues basis (mean score 3.44); there is effective practice of best practices and lesson learned capturing under all projects in the program (mean score 3.36). The average mean obtained in the decision making and lessons learning practice question is 3.61; this implies that the practice is above average decision making and lessons learning practice under the project/program. Yet; this sub group practice is low relatively and standard deviation result shown that there is no common understanding on the sustainable decision making and lesson learned capturing.

Table,7-Statistical summary of operation process group practice (Source own survey 2020)

	N	Mini mum	Ma xim um	Mea n	Std. Deviation
The strategic direction of the program was clearly communicated to stakeholder	39	1	5	3.72	.944
The objective and plan of projects was communicated for team member	39	1	5	3.79	.767
Channel of communication in the project brings about effective risk management	39	1	5	3.46	.969
The comparison of performance of projects against plan was continuous made	39	2	5	3.72	.759
How close the projects are performing with planned work schedule was made	39	1	5	3.51	.823
Measurement of how close the project's cost compared to what was planned is made	39	2	5	3.46	.854
Cross-checking the integrity of the task status reporting was effectively conducted	39	1	5	3.69	.893
Merging the result of projects taking a measure of how the program is performing	39	2	5	3.51	.823
Corrective measures to restore projects task as planed was made	39	1	5	3.46	.996
Decision making throughout has good consideration for alignment to strategy	39	2	5	3.82	.721
Mobilization/sharing of resources across projects in the program were practiced	39	1	5	3.67	1.009
Projects are considered finished when scope items/requirements are met	39	1	5	3.79	1.128
Program management is handled on continues basis	39	1	5	3.44	1.252
Best practices and lesson learned capturing under in the program was made.	39	1	5	3.36	1.013
Valid N (listwise)	39				

Under the open ended questionnaires result, work follow of projects and its compliance with day to day operations of the company; good integrating project results with their respective operation and cooperation among team members are among the best practice listed by the respondents under operation process groups of PPM approach. According to the top management interview result regarding to tool of cost /schedule management of projects whether or not in line with the plan of program; weekly; monthly; quarterly and annual review of projects /program performance under implementation stage a was made continuously according to interview result. The communication channels and decision producers are down to top approach first and feedbacks returned top to down approach. At the lower level of team members and team leaders are reported their project status to their respective managers. Project manager is also reported to the program manager and to directors. Besides the interview results revealed that; over all criteria would be considered beside to decision structure and cost/benefit analysis was dominated citation when evaluation and selection of projects to be incorporated in the program was made.

#### ***4.3.4 Tools and techniques employed under the project/programs management practice assessments.***

This section of the study would be investigated tools and techniques used in the process of developing project portfolio management approaches. This was tried evaluating the respondents experience and perception about tools and techniques used to evaluate a project alignment with strategy of the organization, prioritize and select project to the program; portfolio monitoring and reporting. Accordingly; respondents was asked to choose the most regular tools and techniques used in their respective function as a close ended questionnaires and asking to specified if other techniques were employed in their project. Respondents were answered as shown in table below and the sum variation were rooted that some respondent wasn't awareness to which tools employed and others were choosing more than one methods at once.

Table, 8-Tools and techniques in the process group of PPM

<b>FUNCTIONS OF TOOLS</b>	<b>TOOLS AND TECHNIQUES</b>	<b>FREQUENCY</b>	<b>PERCENT</b>
Which evaluation method is used for projects to ensure its alignment with strategy of the organization to be considered for programs?	Scoring model	4	11.42%
	Strategic buckets	1	2.86%
	Strategic check	12	34.29%
	Graphical presentation	5	14.29%
	Expert judgment	11	31.43%
	Other	2	5.71%
Total Response		35	100%
Which tools and techniques to make prioritization of projects and achieving the balanced programs/portfolio?	Weighted ranking techniques	4	10.53%
	Scoring technique	1	2.63%
	Forced Ranking	2	5.26%
	Risk/Benefit analysis	13	34.21%
	Expert judgment	14	36.84%
	Paired Comparisons	1	2.63%
	Must-Do Should-Do postpone	3	7.89%
Total Response		38	100%
Which tools and techniques employed to maximizing the value of portfolio /monitoring the projects value?	Scoring models	2	6.06%
	Payback Time	1	3.03%
	Analytical Hierarchy Process	5	13.89%
	Economic Methods	1	3.03%
	Net Present Value (NPV)	3	9.09%
	Internal Rate of Return	5	15.15%
	Cost/Benefit Analysis	13	39.39%
	Graphical representation	2	6.06%
	Productivity Index'(PI	1	3.03%
Total Response		33	100%

The first question was regarding tools used for evaluation of projects alignment with strategy of the organization under the program. The proportions of respondent to each method of alignment are shown in the pie chart below. Among 35 willing of respondents more than 80% are argued with three main tools of alignment: Strategic check (34.29%); Expert judgment (31.43%); Graphical presentation (14.29%).

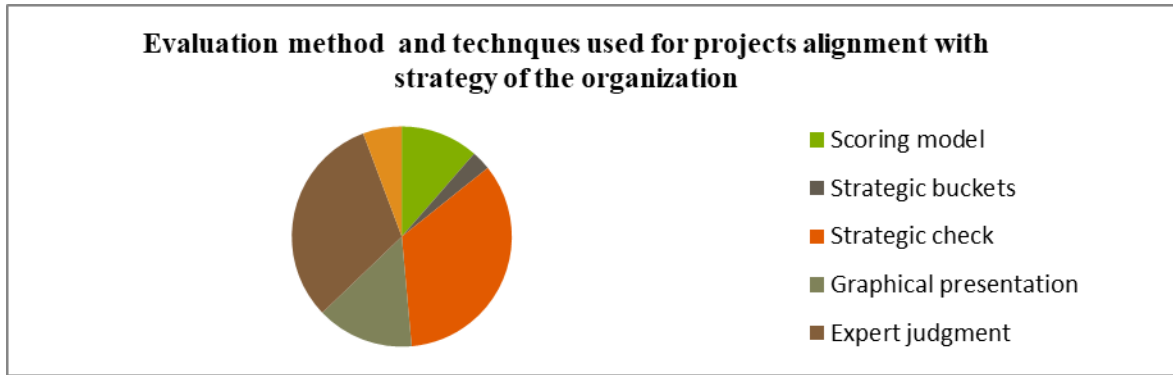


Figure-4, Prioritization tools and techniques

In the same manner; respondents was asked to choose the most frequent employed tools and techniques which are used for selection of projects into the program/portfolio. Weighted ranking techniques; scoring technique; forced Ranking; risk/Benefit analysis ; expert judgment ; paired Comparisons; must-do should-do and postpone techniques and other if any was among the multiple choice tools. Expert judgment 36.84%; risk/Benefit analysis 34.21%; Weighted ranking techniques 10.53% were the three mostly used tools and techniques as depicted by below pie chart

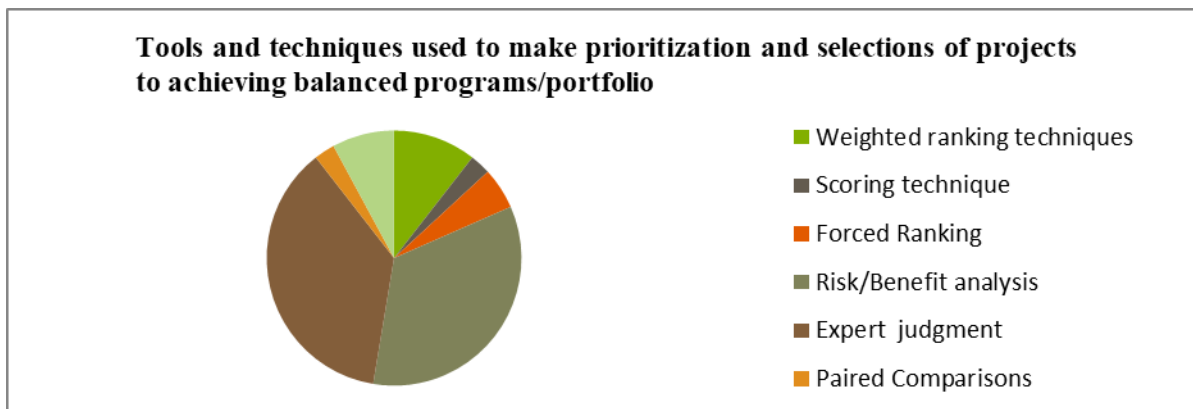


Figure-5, Selection tools and techniques

The final question was regarding tools and techniques used for the implementation process groups of the program. According to the participants response three dominating tools and techniques which are used for maximizing the value of portfolio /monitoring the projects value are cost/benefit analysis; internal rate of return; analytical hierarchy process with percent values of 39.39%;15.15%;13.89% respectively. For the rest techniques and tools below pic chart depict in detail.

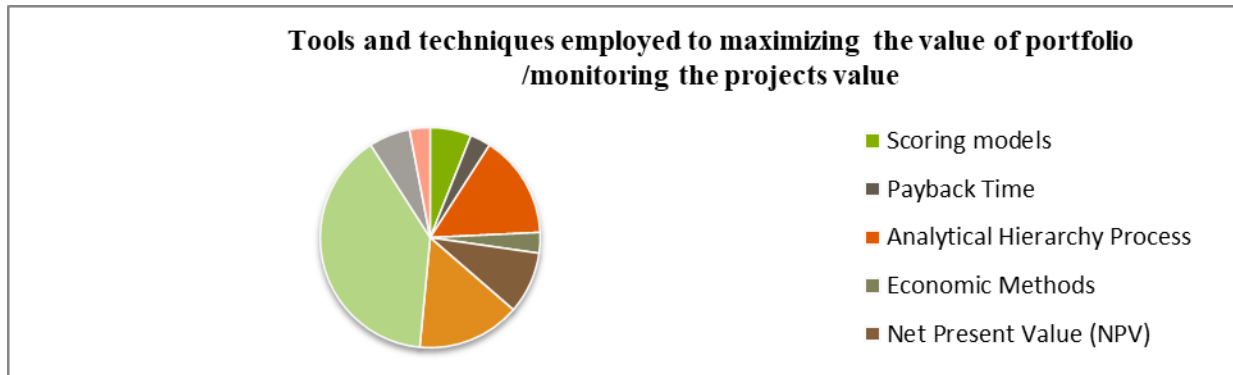


Figure-6, tools and techniques implementations of PPM

Generally; expert judgment is the most frequent techniques under the alignment and selection process groups according to respondents' perception. Under open ended questioners also reveal that; effectively utilized expert judgments techniques for every practice are among good practices frequently explained under the management of projects that has some common link with each other as a program employed in their program/projects. Strategic check, risk/Benefit analysis; weighted ranking techniques; cost/benefit analysis; internal rate of return and analytical hierarchy process are the most well-known tools and techniques employed under the program.

#### **4.4 Challenges in the adaptation of project portfolio management approach**

This part of the study is the presentation and analysis of the last, but main research objective that aimed to investigate major challenges of adapting project portfolio management approach faced by the company under their project/programs. For this research objective twenty questionnaires were developed by the researcher and would be analyzed in terms process group challenges and organizational challenges. Each section consisted of related items and selection of these items for assessment was used by both theoretical considerations and descriptions of challenges facing project portfolio management approach development found in the literature.

Accordingly ; total of 19 questions on process group and organizational challenges of BOA IT projects were asked to indicate the extent to which each respondent agrees to corresponding closed ended statements rated on a five-point Likert type scales ranging from 1 "Strongly Disagree" to 5 "Strongly Agree". Where: 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree and 1 = strongly disagree, would be interpreted as; serious problem; moderate problem; neither problem nor benefits; minor problem; not at all problem respectively. The researcher ranked these challenges from the most challenging to least challenging based on the mean value of respondents' agreement level; to the ease understanding of problems and catch quickly which problems are affected the adaptations of project portfolio management approach significantly. The only one questionnaire that was stated intentionally in positive statement and

that needed to recode after it shown the first purpose of existence as; 1=strongly agree, 2= agree; 3=neutral, 4=disagree and 5 strongly disagree and then analysis with other items directly.

Regarding the first challenge groups; project portfolio management process groups’ related challenges faced by the company program; eight items of questioners were requested to respondents to scale the level of agreements on the seriousness of challenges. As presented in table 4.6 below the respondents replied that; regarding difficulty of linking potential projects to strategy and obscurity strategic direction (mean score 3.08); structure clarity for selecting project proposals for the program (mean score 2.26);difficulty of resource balancing and its ineffective allocation (mean score 3.33); challenges of communication follow and inadequacy of information management (mean score 3.18); failure to constant monitoring of team member to adopt new project and work culture(mean score 3.41); too many approved weak projects in the implementation phase of programs (mean score 3.00); difficulty discriminating between the Go, Kill and Hold projects (mean score 2.67) and inadequacy of techniques and tools and lack of standardization under the program management (mean score 3.15). The average mean obtained in project portfolio management process groups’ related challenges question is 3.01; this implies that even some difficulty facing from project portfolio management process groups; problems related to the process groups are not such serious problems. When we tried to evaluate this group of challenges individually; failure to constant monitoring of team member to adopt new project and work culture; difficulty of resource balancing and its ineffective allocation and inadequacy communication follow and information managements are relatively moderate problem and needs some attention to address

Table,9-Statistical Summary on process group related challenges

	N	Mini mum	Maxim um	Mean	Std. Deviation
The strategic criteria not clearly defined and like potential project was difficult	39	1	5	3.08	1.088
Structure for selecting project proposals for the program was clear	39	1	4	2.26	.818
Resource balancing has been a challenge and its allocation was not effective	39	1	5	3.33	1.009
Flow of communication was challenging and information management was inadequate	39	1	5	3.18	1.073
Constant monitoring of team members to adopt new project was challenge	39	1	5	3.41	.938
Too many weak projects were challenging in the implementation	39	1	5	3.00	1.235
Decision difficulty on Go, Kill and Hold projects	39	1	5	2.67	.982
Methods and tools was were inadequate and lack of standardization	39	1	5	3.15	1.089
Valid N (listwise)	39				

In the second part of the questionnaire, respondents were requested to give responses regarding the organizational specific challenges and other challenges outside of PPM process groups that are affecting its proper adaptation. In connection with it; twelve items of questioners were requested to respondents to scale the level of agreements on the seriousness of challenges. As presented in table 4.7 below the respondents replied that; regarding to inadequacy of higher level managers' support and commitment (mean score 2.82); vagueness of roles and responsibilities under the project (mean score 2.85); difficulty of establishing of skilled set of people to the project/program (mean score 3.44); inadequacy of schedule management and time management (mean score 3.38); inadequacy of awareness creation for investment direction for team member (mean score 3.10); inadequacy of operator involvement and conceptual knowledge of consultant to addressing adequate training (mean score 3.21); standardization difficulties due to epistemological ambiguity/lack common understanding of the concept (mean score 3.26); inadequacy of knowledge regarding selection of right projects to the program and managing active project (mean score 3.38);lack of awareness/knowledge about tools and techniques of program/portfolio of project management (mean score 3.28); inadequacy of resources such as budget; human and physical equipment (mean score 3.21); deprived technological infrastructure and system performance under the project management (mean score 3.03) and difficulty of data integration and its inaccuracy (mean score 3.10). The average mean obtained in the organizational related challenge question is 3.17; which are relatively moderate challenges than process group related challenges and most of the respondents are agreed on such problems. Regarding to individual items of the second problem groups; difficulty of establishing of skilled set of people; inadequacy of schedule and time management and inadequacy of knowledge regarding selection of right projects to the program and managing active projects are among the most challenges they face under their projects.

Table,10-Statistical Summary on organizational and other challenges

	N	Min imu m	Ma xim um	Mean	Std. Deviation
Higher level managers support/commitment for the project was inadequate	39	1	5	2.82	1.121
Roles and responsibilities of concerned stakeholders were unclear	39	1	5	2.85	1.204
Establishing of skilled set of people was challenging	39	1	5	3.44	.995
Inadequate management of project-oriented business schedule	39	1	5	3.38	.990
Awareness creation for investment direction was inadequate	39	1	5	3.10	1.021
Inadequate epistemological clarity /lack of common understanding &standard	39	1	5	3.21	1.128
Knowledge of selection of right projects to the program/managing it was challenge	39	1	5	3.26	.993
Knowledge of consultant to addressing adequate training was challenge.	39	1	5	3.38	1.067
knowledge about tools /techniques' of program was inadequate	39	1	5	3.28	1.146
Inadequate resource	39	1	5	3.21	1.196
Technological infrastructure and system performance was Poor	39	1	5	3.03	1.224
Data integration and data inaccuracy was the main challenge in the project	39	1	5	3.10	1.046
Valid N (listwise)	39				

The common challenges emerged while managing projects/programs in the open ended questioners were; business dynamism; managements weak common understanding and inadequate shared vision; inadequate common understanding of the concept and what it needs; inadequate commitments of managers and team members; lack of experience for project environments; poor system performance and lack of technological inference structure such as internet access and the selection process of the team members for any projects are more subjective managers recommendation rather than their capability.

Beside to challenges under the questionnaires interview result also tried to identified the main challenges to adopt project portfolio management approaches. Accordingly; the first challenges were the independencies of projects even in one program were difficult to manage as one and adopt project portfolio management approach. For example under IT program T24-system enchantment projects were under taken individually by the concerned department. When the bank wants to adopt new system; its applicability is not get much concern and impractical systems in our context may subscribed.

# **CHAPTER FIVE**

## **SUMMARY OF FINDING, CONCLUSIONS AND RECOMMENDATIONS**

### **5.1 Introduction**

In this chapter summary of the study findings, conclusions and recommendations related with over all study part and suggestion for further researchers would be made. It is the summery of all journey of this papers and conclusions of research findings comparable with the objective of the study which was an investigating challenges of developing the project portfolio management approaches and evaluates efforts to adopt effective project portfolio management approach. Having these objectives; this chapter would like to conclude and summarize its finding as the follows:

### **5.1 Summery finding**

As shown above; the primary objective of this paper has been to identify challenges of developing the project portfolio management approaches and investigate efforts to adopt effective project portfolio management approach under Bank of Abyssinia IT projects. Four secondary study objectives that included in this primary objective were: alignment efforts and strategic direction; the selection practices and techniques employed; implementation activities for developing project portfolio management approaches and their bottlenecks under of bank of Abyssinia IT-projects.

Accordingly; employees under bank of Abyssinia IT-projects was asked to respond their level of agreements on the major objective and their summary finding would be presented below in line with individual research objectives. Regarding to strategic direction of the case company; the respondents' level of agreements was approaching to be agree by considering their average mean score and this implies that there is clear strategic direction and this clarity was recognized by the majority of the respondents. Their common understanding on the concept and agreement communality was evidenced by considering the average standard deviations score which; is found to be less than one. The strategic clarity was also supported by qualitative results and it shown that there is clear corporate strategy that guides project implementation and incorporate new projects in the corporate strategy of the company. Three major issues such as growth; operational excellence and digitalization are clearly set as under companies corporate strategies and indicates that any decision have be considered on this pillar strategies (corporet strategy of BoA 2019/20-2023/24).

On the topic of alignment efforts in this objective also follows similar fashions to that of strategic direction clarity and the good efforts were invested to align the potential projects to strategic direction. Yet considering its average standard deviation score; the communality of such practice was relatively low

and the alignment practice was exercised and decided by higher executives only. Even this style of portfolio management decision starts with the high-level strategic initiatives by outline the strategy of the company and its products, and then asks what projects are needed to execute the strategy (Cooper et al., 2001); blending it with the Bottom-Up approach might allow projects to be drawn out by the strategy, as well as allow project ideas to surface from anywhere and be reviewed for their merits (Rosenstock, 2002). This also increases the perception of lower level employees and performs their project activities accordingly.

On the second issue of PPM which is about evaluation and selection of balanced projects to program/portfolio, it has been found out that; average mean score approaching to four and average standard deviation score below one. This implies that; efforts and practices to prioritize and select projects that provide balanced program were relatively nice and common understanding between employees for the developed method for project selection was relatively good. This result was also supported by interview results which was found to be; decision making structures of resources across category of investment opportunities would follow clear and hence it has been made clear how and who the final selection process was made. Yet; prioritization and selection project to the program for the fact that they are highly interrelated after the investment direction has been sited were practiced as interview result shown and this might ignore projects independency. According to Maio et al 1994, main causes of strategic failure, are the need to manage project interdependencies assuring their mutual compatibility at portfolio level and product innovation problems. From which we can see the interdependencies between projects allows organizations to optimize the contribution of all projects taken together to the overall welfare and success of the organization in contrary to case company.

The third aspect of the project objective is about operation process group practice of under the management of active projects. This was tried to evaluate the practice of the respondents by grouping in to communication; monitoring and decision making parts. Accordingly; it was found to be nice practice of implementing projects under their program by considering their average mean score obtained in all three parts and respondents' effort under their projects to the way of adopting project portfolio management approach was visible. Besides; work follow of projects with company operation; project results integration with their respective operation; cooperation among team member; continuous monitoring and controlling of performance review and decision producers and communication clarity were among the good practice mentioned by respondents of questioners and interview under this process groups. Yet; decision making and lessons learning question practice was recorded relatively low average mean score and its large deviation from the mean insights some problem of common understanding . Even decision making procedures are clearly sated by the strategy; its top to down direction might raise such problems and poor recording of best practice and lesson learned also aggravated it.

Regarding to Tools and techniques; there found be some dominated methods in every practices of project portfolio management and investigating its employment practice was made based on their functions in the process groups. So; multiple choice type tools and techniques was required to select the most frequently employed by respondents in each process groups and the result revealed that; expert judgment, cost/benefit analysis, strategic check, risk/Benefit analysis, internal rate of return; graphical presentation, analytical hierarchy and weighted ranking techniques were the most well-known tools and techniques in under all process groups of PPM with respective frequent used under the program. The existence of effective utilizations of expert both in house and external was mentioned as a best practice of the company. The obligatory employments of cost/benefit analysis in every project assessments and top to down decision making procedures were confirmed by the interview results as tool and techniques employment practice.

Concerning to major challenges of adapting project portfolio management approach faced by the company; research results were revealed in to process group challenges and organizational challenges. Accordingly; it was found that both process group and other challenges were the hindrance factors of adopting project portfolio management approach and except some minor challenges; most challenges mentioned under the survey were approaching to moderate difficulties and have to get attentions of resolving it. Besides; relative importance of organizational and other challenges were relatively greater than that of challenges faced under the process groups of PPM approach. Business dynamism; weak common understanding to the concept; inadequate shared vision; lack of commitments; lack of experience for project environments; poor system performance; inadequate independencies of projects in the program; lack of contextualized potential projects and lack technical supports are other challenges found from qualitative data beside to challenges identified to quantitative survey.

## **5.2 Conclusions**

Literatures were verified that project portfolio management approaches are practices /adopted wither implicitly and/or intentionally in modern project-oriented organizations and diversified difficulties were faced under their efforts to adopt it. When implemented project portfolio management; it helps for the managers to prioritize effort on those projects that have the greatest impact on achieving strategic objectives (Fidan & Bramwell, 2011) and tackling problems related with its development process provides prominence result for a company. Accordingly; project oriented organizations have to be committed to address project portfolio management approaches consistently to be successful and being competitive. For organization to stay competitive they need to find a way to link the corporate strategies with their projects and PPM would be a good choice Ali Mosavi et al (2008). Hence; this paper was tried to investigate efforts to adopt effective project portfolio management approach and to identify major

problems of developing these approaches under IT projects of BoA; the following result conclusion would provide based on the literature reviews and particular objectives.

From the findings of the study, it is possible to conclude that how an organization implements its PPM is highly related with its challenges and case company is found to be in the way to develop project portfolio management approach. Even though; there are not higher management level responsible to project portfolio management; project support office and program managers are act as such responsibility and their practice under each project portfolio management process groups are satisfactory.

Accordingly; the company efforts to made clear strategic direction and alignment procedure based on it was found to be in a good way of practice under all result findings. The communality of such practice especially alignment; was found to be minimal and its practice was by higher executives only. Evaluation and selection of balanced projects to program/portfolio was also found practiced well in the projects of the case company and the common understanding of employees for the employed project selection procedure was relatively good. The main pitfall under prioritization and selection process groups was projects were selected to the program for the fact that they are highly interrelated after the investment direction has been sited and ignore projects independency. In a similar fashion; the research was found to be nice practice of implementing projects under their program and organizations effort under their projects to the way of adopting project portfolio management approach was observable. However; decision making procedure and lessons learning capturing practice and inadequate common understanding of such concept was recorded as a down side of operation process groups.

Regarding tools and techniques employed under the project portfolio management process groups; the research was recognized; more than eight type's tools and techniques which were frequently employed under the PPM process groups. Yet; under their employments some tools and techniques was found to be obligatory used without considering their pros and cons and the other were more subjective judgment and simple estimation tools, cost/benefit analysis, strategic. Cost/benefit analysis and expert judgment was also found to be dominated tools and techniques with their problems.

Beside; to the pitfalls found in each process groups of project portfolio management practice various difficulties under the project portfolio management process groups; organizational difficulties and external challenges were found to be faced to the adaptation of project portfolio management approach. Accordingly; study was identified eleven major challenges, by investigating mean score of survey result and integrate it with qualitative result; while the case company was tried to adopt approaches to manage multi-project management environment as a program/portfolio such as:

- ✓ Poor human resource management procedure and difficulty of establishing of skilled set of people to the project/program.

- ✓ Difficulties to adopt new work culture and failure to constant monitoring of employees change.
- ✓ Inadequacy of knowledge and experience for project environments; portfolio management process groups and tools and techniques employed under it.
- ✓ Inadequacy of schedule management and time management under the projects.
- ✓ Difficulty of resource balancing and its ineffective allocation.
- ✓ Standardization difficulties due to epistemological ambiguity/lack common understanding and inadequate shared vision.
- ✓ Inadequacy of manager commitment and in adequacy of conceptual knowledge of consultant to addressing adequate training.
- ✓ Inadequacy of resources such as budget; human and physical equipment.
- ✓ Inadequate information follows throughout the programs.
- ✓ Business dynamism and lack of technological inference structure to adopt it .

## 5.2 Recommendations

This ultimate part of the study would provide what the case organization should do to obtain and develop the best project portfolio management approach and tackle problems raised in its process. These advices of the study are the sum of all journey of the paper based on its objectives and its main focus instruction based on research result would be challenge tackling mechanisms.

So the finding of the study was found out that; the practice of project portfolio management approaches is dually responsible by project support offices and program managers. It implied that; lacks focus of responsibility in an organization and independent departments is not exist. Therefore, the paper primarily recommended that, the responsible department for project portfolio management approach like portfolio in credit departments have to be establishing to record and capture best practice and adjust underperformed practice in the program. Besides; improving the capacities and role of the existing parties such as program management office and program managers is required to defines and maintains the standards of process that are generally related to project management, within the company as Taylor, (2012) recommended.

From this study it has been seen that ;even if there were good agreements on the practices of program managements and PPM approach development efforts; the communality of such practice; decision making procedure; lessons learning capturing practice and lack of project independencies' selected to the program was identified as the minimal efforts as employed by the company. So to improve the common understanding well established communication channel have to be required and sufficient training for all

concerned stakeholders have to be provided about the strategic direction; alignment and selection procedures. Besides; the distribution of the captured knowledge for every PPM stakeholder and lesson learned capturing regarding the application of PPM of the organization has to developed to increase capability and enhancement common view and projects under one program have to be go together by sharing resources and time to become effective.

Regarding the major challenges in the adaptations of project portfolio management approaches; the study found to be about eleven major problems. Standing from it this paper would like to insight the remedial actions to overcome such problems. Accordingly; human resource management procedures have to be established for the project specific recruitment and skilled set of people to the project/program should be based on capabilities of employees. Since human resources are among valuable project resources; other has to be balancing and allocation its allocation should be based on sated criteria's rather than subjective decisions. Since every change faced resistance from internal and external environments; a way to adopt new work culture have to be established and to constant monitoring of employees in the level of adopting changes have to be made in the projects. Problems of management, standardization, inadequate shared vision manager and lack of commitment are all rooted from knowledge gaps and this have to be filed by providing continues training and lessons learned capturing and equally distributed for the concerned stake holders. Besides; higher level managers have to allocate proportional resources for the project of resources such as budget; human and physical equipment. The environmental dynamism keep updating in every aspect of the organization and adopting the new environment as soon as possible. For adopting new environment and check project performance; continuous monitoring and immediate corrective action have to be taken. There has to be strong commitments under both the team members and managers to perform and manage project as well to adopt the project portfolio management approach.

This research ends its journey via appointing where future research would be focused. As it shown before; the focus of this paper was basically on the adaptation challenges of project portfolio management approaches and practice to the way for developing it in the case company. From the finding of the study it has been found out that the case organizations effort and practice under their program is somewhat adequate. Yet also; adaptation practice of project portfolio management approach of the organizations was tackled by different challenges and are not employed it well. Accordingly; the research findings and the identified problems of this paper would like to suggest that further research would focused on the use of project portfolio management within organizations and clarify its purpose and goals. Even the same topics for different context may provide different challenges and practices for the fact that; the transferability but not generality behavior of case study. So investigating various companies' effort to the adaptations of project portfolio management approach and common challenges they face is open to the

researchers. Further research in these areas will be beneficial and improving the field of project portfolio management approach and practice if the focused of the research will be how project portfolio management approach is improved in various context. The relations of each portfolio management approach with organizational strategies achievement was not the concern of this design and scope of this paper. So that further researcher may be turning his face on to comparison of which portfolio management approach is best for a given context.

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# Appendix-1; Data collection instruments

**Addis Ababa University**  
**College Of Business and Economics**  
**School of Commerce**  
**MA in Project Management**

## Questionnaire for Project Work and Interview

*Dear Sir/Madam I humbly would like say thank you for your willingness to participating in this research process which is conducted to carry out preliminary research on identifying challenges of developing the Project Portfolio Management approaches and investigating efforts to adopt effective project portfolio management approach on IT projects at Bank of Abyssinia. Your response is **highly valuable** to the outcome of the research and future improvement of program/project management as well as adopting project portfolio management approach in bank of Abyssinia project may rest on. Thank you in advance for our cooperation and filling the questionnaire.*

**Sincerely yours**

**Habtamu Degefaw Workie**

E-mail: [habtedegef@gmail.com](mailto:habtedegef@gmail.com) Phone Number: 0947411369

### Part 1: General Information

1. Sex    Male            Female
2. Age    Less than 25     25-34     35-44     45-54     above 55
3. Educational qualify    College diploma     Bachelor's degree     Master Degree and above
4. Department/specific role: Officer     Project team leader     Project manager     Portfolio coordinator     director/dep't manager     other (specify \_\_\_\_\_)
5. Number of years working in your current company: less than 5     6-10     11-15     16-20     More than 20

**Please use a tick (✓) mark to answer the following statements as SA= (Strongly Agree). A= (Agree), N= (Neutral), D= (Disagree) and SD= (Strongly Disagree)**

<b>Part 2: Alignment and selection process group of project portfolio management approach under your project/programs management.</b>		SA	A	N	D	SD
1	There was clear structure for selecting project proposals for the program.					
2	There is a strong link between the organization strategy and the project					

	objective/program strategy.					
3	How resources of the company should be spread across Projects of the portfolio /program was clear					
4	Alignment of projects with the portfolio/program strategy was carefully evaluated.					
5	Projects objectives under this program are interrelated with the corporate goal of the organization.					
6	The projects proposal is screened using criteria that do not involve more of subjective decision.					
7	SWOT analysis (strength, weakness, opportunity and threat) of proposed projects from internal and external environment is effectively made prior to their selection.					
8	What the company should spend on with how the project will return (benefit/cost) is considered in the evaluation/prioritization of projects.					
9	Financial and qualitative strategic issues are given proportional weight in the evaluation of projects.					
10	The projects are selected for the fact that they have a growth potential for the organization, in terms of revenue, customer satisfaction and so on.					
11	Selected projects under program/portfolio have good combination to provide maximum total benefit with respect to budget, organizational constraints and risk.					
	<b>Part 3: Operation process group of project portfolio management approach under your experience project/programs management.</b>	SA	A	N	D	SD
1	Communication regarding strategic direction of the program for project managers and project team leaders was clearly made					
2	Communication regarding objective and plan of projects for their team					

	members was made clearly					
3	Channel of communication employed by the program/ project management brings about effective risk management.					
4	Continuous comparison of performance of projects in the program/portfolio against planned performance was made.					
5	Measurement of how close the projects are performing with planned work schedule was made.					
6	Measurement of how close the projects are spending compared to what was planned for work spending was made.					
7	Cross-checking and checking the integrity of the task status reporting by project team member for their respective project manager was effectively conducted.					
8	Merging the result of projects and taking a measure of how the program/portfolio is performing with respect to both schedule and cost was effectively made.					
9	Effective corrective measures to restore projects task that do not meet requirement of the plan was employed.					
10	Decision making throughout the program/project portfolio implementation gives good consideration for its alignment to strategy of the organization.					
11	Mobilization and sharing of resources across projects in the program/portfolio were effectively practiced					
12	Projects are considered finished when scope items/requirements are met.					
13	Program management is handled on continues basis.					
14	There is effective practice of best practices and lesson learned capturing under all projects in the program.					
<b>Part-4: Challenges of developing Project Portfolio Management</b>		SA	A	N	D	SD

1	Linking potential projects to strategy is not such easy and strategic criteria not clearly defined.					
2	Structure for selecting project proposals for the program was clear.					
3	Resource balancing has been a challenge and its allocation was not effective.					
4	Flow of communication in the management of the program/portfolio was challenge and so information management was inadequate.					
5	Constant monitoring of team members tends to affect their work culture to adopt new project was challenge					
6	Taking changes for improvement of process and taking corrective actions with the use of monitoring information.					
7	Too many weak projects that are accepted were challenging in the implementation phase of programs					
8	Higher level managers' support and commitment for the project was inadequate.					
9	Roles and responsibilities of concerned stakeholders were unclear and sometimes confused.					
10	Management seems to have difficulty discriminating between the Go, Kill and Hold projects					
11	Establishing of skilled set of people that are acquainted in their respective project/program responsibility was a challenge					
12	Inadequate management of project-oriented business schedule management and time management was a challenge.					
13	Awareness creation for investment direction to increase commitment for team member was slight.					
14	User involvement and conceptual knowledge of consultant to addressing					

	adequate training was challenge.					
15	Inadequate epistemological clarity /lack of common understanding of the concept by team member make standardization difficult.					
16	Knowledge regarding selection of right projects to the program and managing active project has been a challenge					
17	Awareness/knowledge about tools of program/portfolio of project management was inadequate					
18	Methods and tools for portfolio/ program/project management to each process groups were inadequate and lack of standardization.					
19	Adequacy of budget; human resource and physical equipment to implement program was another challenge.					
20	Technological infrastructure and system performance was Poor under the project management.					
21	Data integration problem and data inaccuracy was the main challenge in the project					

**Part 5: Tools and Techniques of program/Portfolio Project Management**

Please use a tick (X) mark to choose tools and techniques mostly employed in your project/programs for the respective project portfolio management approach.

<b>FUNCTIONS OF TOOLS</b>	<b>TOOLS AND TECHNIQUES</b>
Which evaluation method is used for projects to ensure its alignment with strategy of the organization to be considered for programs?	Scoring model <input type="checkbox"/> Strategic buckets <input type="checkbox"/> Strategic check <input type="checkbox"/> Scoring model of <input type="checkbox"/> Compromising <input type="checkbox"/> Graphical presentation <input type="checkbox"/> Weighted key <input type="checkbox"/> Expert judgment <input type="checkbox"/> Please specify if other _____
Which tools and techniques to make prioritization of projects and achieving the balanced programs/portfolio?	Weighted ranking techniques <input type="checkbox"/> Scoring technique <input type="checkbox"/> Forced Ranking <input type="checkbox"/> Risk/Benefit analysis <input type="checkbox"/> Expert judgment <input type="checkbox"/> Paired Comparisons <input type="checkbox"/> Must-Do, Should-Do ,postpone technique <input type="checkbox"/> Please specify if

	other_____
Which tools and techniques employed to maximizing the value of portfolio /monitoring the projects value?	Scoring models <input type="checkbox"/> Payback Time <input type="checkbox"/> Analytical Hierarchy Process <input type="checkbox"/> Economic Methods      Net <input type="checkbox"/> Present Value (NPV) <input type="checkbox"/> Internal Rate of Return <input type="checkbox"/> Cost/Benefit Analysis <input type="checkbox"/> Graphical representation <input type="checkbox"/> Productivity Index'(PI) <input type="checkbox"/> If other please specify,_____

**Part 6: open ended questions**

1. Explain the practice of management of projects that has some common link with each other as a program/portfolio and techniques and tools employed in your program/projects.

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2. Specify any other challenges emerged while managing projects that have a common link as a program and attempting to link them with the organization strategy.

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3. What do you recommend as a remedial action to solve the above issues you came across?

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**Part 7: Interview guide**

1. How was the practice of integrating the organization strategy with the projects and programs
2. How was the decision making regarding how resources of the organization should be spread across category of investment opportunities?
3. How do you describe your tools/management of cost and schedule of projects to be in line with the program?
4. Explain the practice of manage and review of program of projects under implementation stage and what are decision producers?
5. Do you think there are challenges that affect the adaptations of approach that interprets the project success as organizational strategic achievements? What are them?
6. What do you recommend as a remedial action to solve the above challenges you came across to adopt an effective approaches for managing projects that have a common link?

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## Appendix-2; Study schedule and budget plan

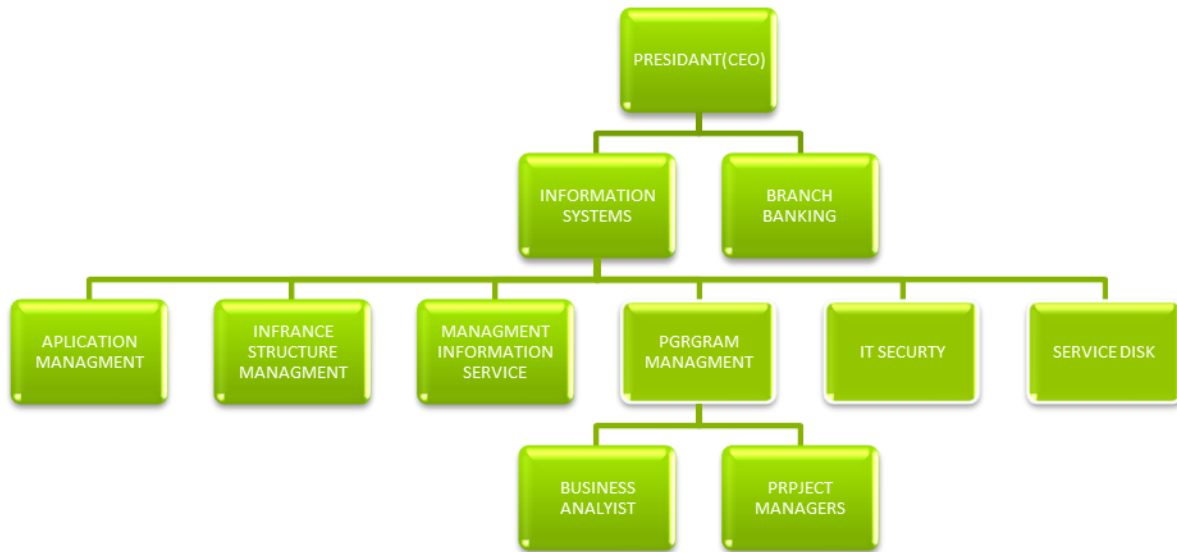
**Table: I Time table**

No	Activity	Schedule							Remark
		De c	Jan	Feb	Mar	Apr	May	J u n	
1	Research Idea selection		X	X					
2	Proposal writing			X	X	X			
3	Review of Related Literatures		X	X	X	X	X	X	Continues
4	Data Collection					X	X		
5	Data Analysis and Report writing					X	X		
6	Paper/Research Report Submission 1 <sup>st</sup> draft						X		
7	Submission of Final Report							X	
8	Submission of Final Report and defense								X

**Table II budget plan**

No.	Activities	Rate	Real Cost in Birr	Expected Cost in Birr
1	Stationery materials	Overall	500	800.00
2	Expense for data collection including transportation.	Overall	900	2,250.00
3	Secretarial service and print	Overall	1400	1000.00
4	Internet usage		1950	3000
5	Other expense (contingency)		1200	2000
	Total		5950	9050.00

### Appendix-3 Organizational structures of bank of Abyssinian



SOURCE: Bank portal

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