ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES

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TOWARDS IMPROVING IT SERVICE MANAGEMENT PRACTICES: A CASE STUDY IN THE BANK OF ABYSSINIA.

BY

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A Thesis Submitted to School of Graduate Studies of Addis Ababa University in Partial Fulfillment of the Requirements for the Degree of Master of Science in Information System

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Declaration

I declare that this study, Towards Improving IT Service Management Practices in Bank of Abyssinia, is my work and it has not been submitted for any degree in any other University. I have produced it with the guidance and support of my research advisor.

Signature _____

Abraham Gelaye

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

Advisor Signature: _____

Dr. Workshet Lamenew

Acknowledgments

First of all, I would like to thank God for giving me the health and strength to accomplish this thesis. Next, my special gratitude goes to my academic advisor Dr. Workshet Lamenew, who provided me valuable support, useful suggestions, and advice to empower me to move forward. Dr. Workshet Lamenew, who spent more time to help me, thank you for your support when I came to your office. I also want to say thank you to my examiner Dr. Dereje Teferi, who provided me valuable comments during my mid thesis defense.

Moreover, I want to express gratitude to the staff under the Information System department at the Bank of Abyssinia for which the data collection part of my thesis. You have put in a lot of time and effort to enable me to do this work.

Finally, my special thanks go to my family and friends who have been supportive throughout the thesis work.

Abstract

Due to the Tremendous growth of information technology (IT), organizations are under intensive pressure. Because organizations no longer compete solely based on financial capital and strength, rather IT is the new competitive advantage in business, and to cope with this pressure the organization needs to have effective and efficient IT Service Management. Unfortunately, having effective IT Service Management and aligning IT service with business is a challenging task.

Aligning IT service with business is the weakest link in an organization. Because of this, attention has increased to align IT service practice with the business needs of the organization. It is therefore vital that organizations have effective IT service management in place to ensure what they are providing does facilitate the outcomes their customers want to achieve and manage all of the costs and risks with those services.

In Ethiopia the business environment is changing rapidly, especially the number of banks joining the industry has been growing from time to time. This scenario enforces the banking industry to provide better service to gain a competitive advantage, which is achieved by improving IT service management. However, due to various challenges IT service management contextual challenges are not explored largely in Ethiopia. Furthermore, studies in the past in the same area have not addressed situations in Ethiopia banking.

Thus, the purpose of this study is to identify challenges related to current IT Service Management practices in the Bank of Abyssinia (BoA) and provide recommendations for improvement.

A qualitative case study applying observation and interview methods has been used to conduct this study. The interview instruments are developed based on three-dimension namely; process, people, and technology.

The study results reveal ***measurement, change management, interoperability, reporting, policy, and procedure*** are the challenges that hamper IT service Management practices in the BoA. It also shows a lack of **skill*, documented service guidelines, a Self-service portal, communication, and collaboration.***

Keywords: Service, IT Service Management, IT Service Management Maturity

Table of contents

List of Figures

Figures **page**

List of Tables

Table **Page**

List of Acronyms

BoA ----------Bank of Abyssinia

IT----------Information Technology

ITSM---------- Information Technology Service Management

ITIL---------- Information Technology Infrastructure Library

Cobit---------- Control Objectives for Information and Related Technologies

ATM----------Automatic Tailor Machine

POS---------- Point of Sale

OGC----------Office Government Commerce

MOF----------Microsoft Operation Framework

CMMI----------Capability Maturity Model Integration

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Chapter One

1.1 Background of the Study

The tremendous growth of information technology has helped companies in various contexts and become the essential parts of the organizations. Therefore, companies keep using information technology to deliver values, improve products, and provide quality services to gain a competitive advantage in the market. To compete in the market, the firm should have to provide quality service through continuous improvement.

IT Service Management is the discipline that strives to better the alignment of IT efforts to business needs and to manage the efficient provision of IT services with guaranteed quality (Pereira & Mira, 2011). IT service management (ITSM) frameworks have helped IT functions and vendors change from a product (hardware/application) focus to a service focus. Since the 1980s, and with increased enthusiasm in the last ten years, we have witnessed major changes in ITSM business models, standards, collaborations, and work practices. Besides, ITSM frameworks present processes that transform the focus and work practices in service provision. ITSM frameworks can provide organizations with a means to exploit their capabilities and resources and transform business processes (Marrone, Gacenga, & Cater-steel, 2014).

It is visible that IT service management practices have been evolving in the organization to take advantage of new technologies and to better support the business. Many organizations worldwide are successfully taking up ITSM. Although, not all are experiencing positive outcomes and many of them are confused (Mohammadi, Ravasan, & Hamidi, 2015). Organizations in different countries face similar difficulties and challenges in managing general IT services, but studies indicate that large IT initiatives in developing countries confront specific difficulties that differ from those found in industrialized ones (Amid, Moalagh, & Ravasan, 2016). From this, we can understand IT Service management is different from organization to organization and from country to country. Therefore, Ethiopian banks also share this reality and it is important to study and explore organization-specific IT service management barriers.

Modern banking in Ethiopia, which was introduced in 1905, is finally leaping to catch up with innovative banking services and products. One can easily observe that the home-grown banks are introducing a new range of banking services based on ATM, Internet Banking, Mobile Banking,

POS, SMS, and Call Center banking as an extension of their traditional branch services (Aychiluhim& Tibebe, 2013). Therefore, this growth in service and product enforce banks to improve their ITSM practices through continual analysis of the current ITSM practices.

Bank of Abyssinia started its operation with an authorized and paid-up capital of Birr 50 million, and Birr 17.8 million respectively, and with only 131 shareholders and 32 staff. In two decades since its establishment Bank of Abyssinia has registered significant growth in paid-up capital and total asset. It also introduced a new range of banking services, Bank of Abyssinia has been triggered to transform the services. This process has caused an increasing demand for a Bank of Abyssinia to meet the needs of customers and provide more effective IT services by adopting different ITIL processes that aligned with bank objectives.

The Information Technology Infrastructure Library is a set of concepts and policies for managing information technology (IT) infrastructure, development, and operations. ITIL is the most widely accepted approach to IT Service Management in the world. It promotes a quality approach to achieving business effectiveness, economy, and efficiency in the use of information systems (Sultana & Tower, 2013). As a result, five ITIL processes are selected in three-dimension to assess the current position and provide improvement as a solution to the organization's understudy.

1.2 Motivation

The following are some of the motivational factors for this research.

- To gain a deeper understanding of IT service management practice in the Bank of Abyssinia to plan and develop future IT service management strategy.
- The desire to learn challenges or difficulties from current trends of ITSM practices in the context of BoA is the main motivation for this study.
- It is observed that there is no well-organized IT service procedure, which helps the banks to support the core business of the organization. Usually, a single service request by the business people takes a long way to get a solution. Therefore, this issue motivated the researcher to assess and to contribute something that helps to resolve this problem.
- The researcher needs to understand what IT services management of the organization resembles when compares with the best practices.

- The Ethiopian Government recently allows the entry of foreign banks into the local market. This will bring challenges to banks in Ethiopia. Therefore, as one employee of the banks, the researcher needs to contribute something that may help the local banks to improve IT services.

Therefore, this scenario motivates me to focus on investigating the current challenges and position of IT service management, which helps for improvements.

1.3 Statement of the Problem

Failure of not having a good IT Service management practice may result in many negative consequences that lead to a decrease in company profits, dissatisfied customers, loss of productivity. Due to this IT companies around the world are implementing IT Service Management System to upgrade IT service quality, improve business performance, and help to gain competitive advantages. Despite many successful case studies, there are also unsuccessful organizations in implementing this standard for different reasons. One important factor is the failure of recognizing the challenges relating to IT service operation in their organization, as cited in (Mohammadi et al., 2015). This indicates that recognizing the challenges related to IT service management practices by examining the current position of IT services in the organization is the key.

Internal IT service management processes are under constant improvement. However, to be able to know if the IT service provision developed in the right direction, there is a need to perform some kind of assessment of the IT process (Jaadla& Johansson, n.d.). From this, we can understand it is important to assess IT service management practices to mitigate the wrong way of managing IT services practices and improve the ITSM practices in the banks.

Organizations consider the improvement of service management processes as a challenging task (Jäntti, 2011). However, Most organizations attempt to implement Information Technology Service Management (ITSM) frameworks to manage their IT services, even if their efforts have been influenced by a variety of influencing factors (Alemeye Seife & Dr.Workshet Lamnew,2015). From this, we can understand areas of IT service management have a problem and the researcher needs to assess and identify the challenges related to IT service management practices in the organization under study, which help us to minimize influencing factors.

A study on ITSM performance measurement concurs that there is a gap in the empirical literature on the performance of IT organizations especially concerning IT service management (Gacenga, Cater-steel, Toleman, & Tan, 2011). This means Many IT service provider organizations have difficulties in providing effective and efficient IT services Therefore, the researcher is motivated to contribute empirical literature by studying the current practices of ITSM and challenges in the banking industries.

There are local studies (Dr.Workishet and Alemiye, 2015) conducted towards exploring barriers and critical success factors of ITIL implementation in Ethiopian telecom companies, and they only focused on factors affecting the implementation of ITIL. And there are also other studies (Tadesse Dhabi & Lemma Lessa, 2017) conducted towards developing a tailored ITSM framework. However, the researcher believes still there is a gap in previous studies towards improving IT service management practices in the context of the Ethiopian banking sector.

There are also other studies (Tadesse Dhabi & Lemma Lessa, 2017) conducted towards developing a tailored ITSM framework. However, the researcher believes still there is a gap in these studies, because the study only focused on process tailoring and forgets issues such as process prioritization.

Currently, IT service Management practices in the Bank of Abyssinia indicate the presence of complaints and conflicts between the bank's internal IT support service team and business people due to a lack of good IT service management practices. This indicates improving current practices by identifying challenges that exist in the process of managing IT service has not yet received adequate attention in the BOA.

Consequently, to fill this gap this study selects the Bank of Abyssinia, one of the private banks in Ethiopia to identify existing information service management issues.

Therefore, to investigate and understand the current practices of IT service management and challenges in the bank of Abyssinia. The following research question is proposed to improve IT service management practices:

1. What is the current maturity level of the ITSM practices in BoA?
2. What are the challenges related to IT service management practices in the BoA?
3. How to improve current IT service management practices in BoA?

1.4 Objectives

1.4.1 General Objective

The general objective of this research is to identify IT Service Management challenges in the bank of Abyssinia and provide recommendations for improvement.

1.4.2 Specific Objectives

To achieve the general objective of the study, the following specific objectives are identified.

- To review related literature and theory about IT service management.
- To assess the level of ITSM practices in the banks.
- To identify challenges in the current ITSM practices.
- To suggest the ITSM improvement model for BoA.
- To recommend future research areas.

1.5 Significance of the study

This research will contribute to management for improving IT service management and provide knowledge about IT service management in the Banks. Generally, this study contributes the following significance:

- ✓ Improves the IT service management practices in banks because banks are investing a lot in IT infrastructure to support the business.
- ✓ Provide awareness and knowledge of the best IT service management process for IT managers.
- ✓ The research study can be used as a baseline (benchmark) for the improvement of the organization.
- ✓ This study also helps to validate existing theories.

1.6 Scope and limitation of the study

1.6.1 Scope

The scope of this study will include assessing ITSM practices in the bank of Abyssinia specifically focus on three dimensions of IT service management i.e. process, people, and technology in IT departments of the organization under study.

1.6.2 Limitation

Limitation of the study in the process of conducting the study, the researcher has encountered some constraints. One of the main limitations of this study was making an interview due to COVID-19. Because of this the total sample size and selection of interviewees of the research were affected. And also information collected represents the opinion of those managers who answered the questions, which restricted the ability to collect information from various points of view i.e. this study was only limited to present information from IT perspectives. The other limitation is that due to time constraints the research covers only a single Bank. The result of the research would be more inclusive if it involves the entire Banks in Ethiopia.

1.6 Structure of the thesis

The remaining of this document structured as follows:

Chapter 2 presents a review of basic concepts, theories, and challenges related to IT service management practices. Besides, it reviews several existing best practices, standards, and maturity models related to IT service management.

Chapter 3 presents the research methodology used to address the research questions and discusses the research design and methodologies used to collect, analyze, and interpret the data.

Chapter 4 presents the details of the study analysis and presentation of the result.

Finally, Chapter 5 concludes the thesis and outlines some areas for future research.

Chapter Two

2 Literature Review

The purpose of this chapter is to understand concepts, theories, and current knowledge that exist in the areas of IT Service Management. This helped the researcher to identify approaches to present IT Service Management challenges and achieve the research objectives. Therefore, to achieve the objectives of this study, extensive literature was reviewed from various resources.

2.1 Literature Resource and Searching Terms

The starting point of any research is reviewing the relevant previous studies. Bearing this, the researcher has explored numerous scientific journal articles, conference papers, thesis, and reference books on various resources.

The below table (Table 2.1), Shows literature resources and terms that the researcher used in the searching process.

Table 2.1 Literature Resources and Terms

Search Strategy	Google Scholar
	Science Direct
	Research Gate
	IEEE Explore
	AAU Digital Library Repository
	Z-Library
	AIS Electronic Library
Search Terms	ITSM
	IT Service Management
	IT Service Management process assessment
	IT service Challenges
	ITSM Maturity
	IT Service Maturity Assessment
	Peer-Reviewed Journals Articles

Study Selection Method	Electronic Articles
	publication date

2.2 The Concept of IT Service Management

Before discussing the concept of IT Service Management, it is important to discuss the concept of service, IT service, and service management. According to (Orand, 2013)Service is defined as follows:

Service is a means of delivering value to customers by providing the outcomes desired by the customers without sustaining septic costs or risks. Services science builds on the term ‘‘service’’ by incorporating the people, processes, and technology elements that interact with delivery services (Stevens-hall & Mathenge, 2020).

Service management is what enables a service provider to understand the services they are providing, to ensure that the services do facilitate the outcomes their customers want to achieve, to understand the value of the services to their customers, and to understand and manage all of the costs and risks associated with those services (Kolarovszká, 2013).

As referenced by (TadesseDabi, 2017) IT services classified into four broad categories with their relationship to business strategy and operations

Application Services: refer to those services delivered via software applications. These

Services are derived from the ‘information handling’ abilities of technology. These

Services include information processing, sharing, storage, and access services.

Operational Services are those services that relate to assembling and operating the core IT environment. Such services include the installation of hardware and software, maintaining the communications network, and servers.

Value enabling services: are services that are provided to enhance the value of information assets or identify opportunities provided by IT to better manage information.

Infrastructure services are those services that are derived directly from the infrastructure investment, essentially the technology itself.

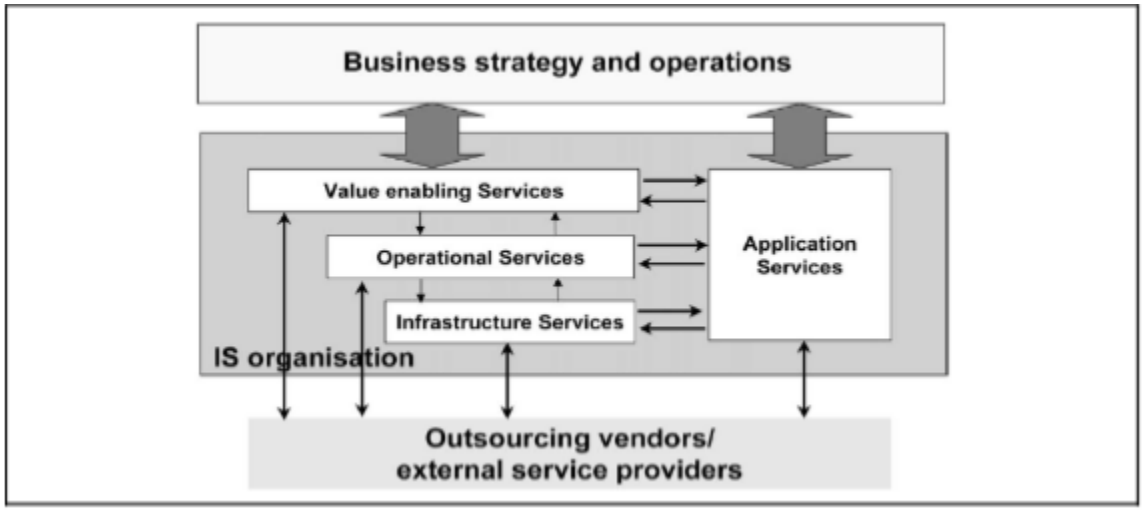

Figure 2-1: Relationships between the Four IT Service Categories, Business Strategy, and Operation.

Now a day it's known that organization is highly dependent on IT services to perform their day to day businesses and gain competitive advantage. As a result, they spend a larger share of their IT budget on the development and management of IT services.

There are many definitions for the discipline of IT Service Management. Some mentioned, as follows.

- ITSM is considered as a sub-discipline of Services Science that focuses on the delivery and support of IT services to customers (Yazici & Mishra, 2015).
- ITSM has been one of the most important phenomena in businesses, often driven by the IT service vendors, and the movement of ITSM adoption has been and will continue to have a profound impact on businesses and management of IT and IT resources (Shahsavarani& Ji, 2011).
- IT Service Management is a set of processes that cooperate to ensure the quality of live IT services, according to the levels of service agreed to by the customer (Sallé, 2004).
- IT service management is the process of aligning enterprise IT services with business and a primary focus on the delivery of the best services to end-user. IT service management is

built around processes and practices that gauge the end-to-end delivery of IT solutions rather than their development (Scheffe & Strassner, 2008).

- IT Service Management is the term we use to describe the business of managing organizations to deliver professional, accountable, consistent levels of service. It is a planned and conscious means of building and managing support structure to meet business and service objectives – moving from chaos to control, from fire-fighting to fusion (Baclay Rae, 2007).
- Information Technology Service Management (ITSM) is a subset of Service Science that focuses on IT operations such as service delivery and service support (Galup, Dattero, Quan, & Conger, 2009).

From the above definition we can understand that ITSM is a process of delivering quality IT services by aligning IT services with organizational services through the reduction of IT service risks and cost.

The difference between IT Service Management and IT Governance has been subject to confusion and myths (Sallé, 2004). IT Management focuses on the efficient and effective supply of IT services and products, and the management of IT operations, IT Governance faces the dual demand of (1) contributing to present business operations and performance, and (2) transforming and positioning IT for meeting future business challenges (Peterson, 2007).

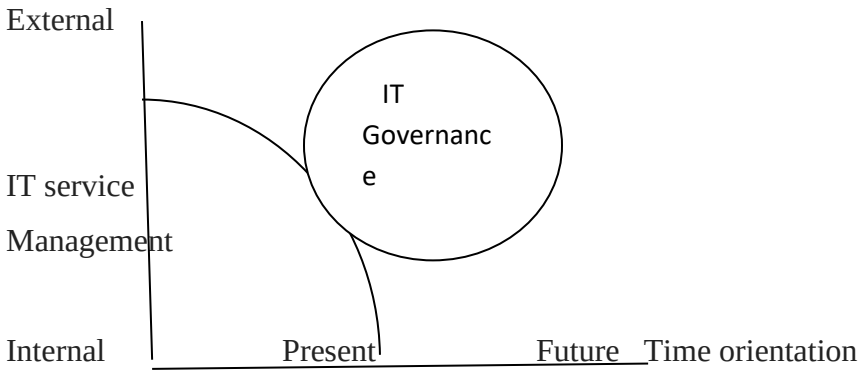

Figure 2.2 IT Governance and IT Management (Peterson, 2001)

According to (Leopoldi, 2015) we have three distinct IT service management approaches which discussed as follows :

Stabilization – to stabilize the existing environment from a tactical standpoint as it relates to people, process, technology, and information. This includes determining the business requirements as driven by the organization's vision and strategy and the IT initiatives that support them, correcting the alignment between them as needed. It also includes a determination as to the maturity of the organization, business, and IT.

Rationalization – to remove what is not needed and enhance or add what is to tactically position the organization to strategically achieve the desired state and align the business to IT including people, process, technology, and information for both business and IT.

Transformation – those initiatives that are determined and subsequently implemented out of the Rationalization phase such that the organization will transform to strategically achieve the future desired.

2.2.1 The importance of IT Service Management

According to (Radovanovic, Sarac, Adamovic, & Lucic, 2011), IT service management is concerned with planning, designing, implementing, supporting, and improving IT services that are appropriate to business needs. Especially change in business environments has many risks, which may disrupt operations and have unintended consequences. however, managing IT service appropriately prevents the organization from unintended consequences and helps them to use the value of IT to enable business change. So the benefit of IT service management includes:

- To deliver the quality of IT services
- Reduction in IT risks
- Reduction in the budget of delivering IT services

2.3 IT service Management Frameworks and Standards

In this section, we review ITSM as the overall concept domain, with Control Objectives for Information and related Technology (CobiT), ISO/IEC 2000standard, and ITIL as supporting mechanisms for managing IT service within an organization.

The figure which was adapted from(Iden, & Roar, 2017), provides an overview of the ITSM domain model.

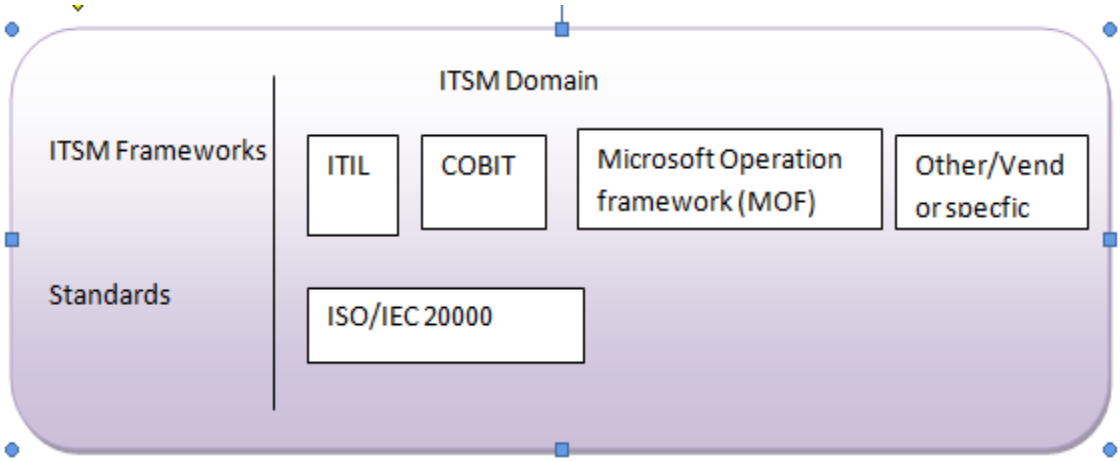

Figure2.3 ITSM domain model

2.3.1 Information Technology Infrastructure Library (ITIL)

According to(CAI, computer Aid, n.d.)ITIL serves as a source of good practice standards in IT Service Management (ITSM). It is used as a reference by organizations worldwide for managing and improving IT services.ITIL contains a set of five publications, the ITIL Core, which provides structure, stability, and strength to an IT organization's service management capabilities.

ITIL was created by the UK's Office of Government Commerce (OGC) to organize IT management in the public sector. ITIL is now managed by the Information Technology Service Management Forum (itSMF). According to (Wegmann, Regev, Garret, & Maréchal, 2008), The Information Technology Infrastructure Library (ITIL) is a collection of best practices for the management of IT services. ITIL helps organizations to become aware of the business value their IT services provide to internal and external stakeholders.

Evolution of ITIL: -according to (Planview, 2008) ITIL began as a collection of books or volumes. Each book covers specific practices for IT Service Management and groups related process guidelines into the different aspects of IT management, applications, and services. ITIL V1 had 34 volumes, ITIL V2 had 9, and ITIL V3 published in June 2007 has 5 core volumes. The evolution of ITIL has been to make it more accessible, more affordable, more relevant, and to provide an increasingly common language for talking about IT services.

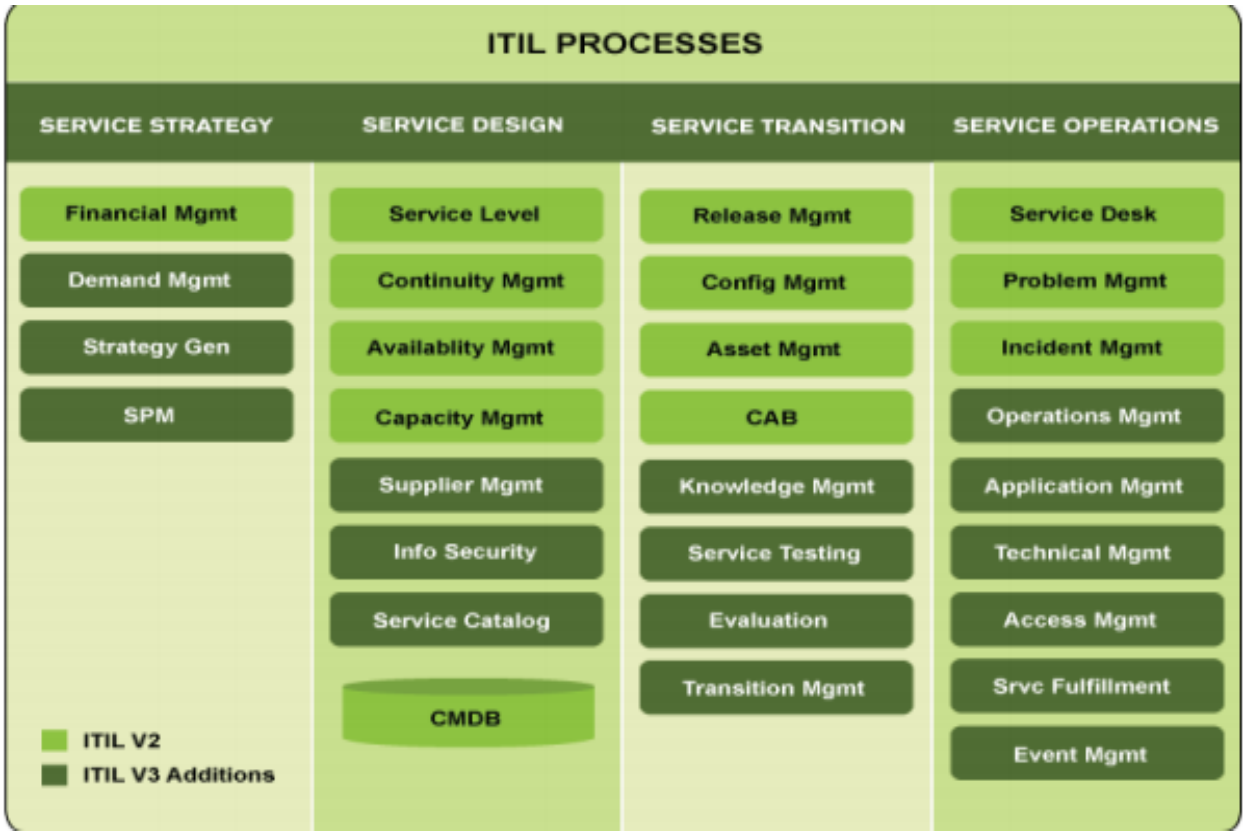

Figure 2.4 ITIL V2 and ITIL V3

Characteristics of ITIL: According to (OGC, 2007) ITIL is intentionally composed of a common-sense approach to service management – do what works. Moreover, what works is adapting a common framework of practices that unite all areas of IT service provision toward a single aim – delivering value to the business. The following list defines the key characteristics of ITIL that contribute to its global success:

Non-proprietary – ITIL service management practices are applicable in any IT organization because they are not based on any particular technology platform or industry type. ITIL is owned by the UK government, and not tied to any commercial proprietary practice or solution.

Non-prescriptive – ITIL offers robust, mature, and time-tested practices that have applicability to all types of service organizations. It continues to be useful, relevant in public, and private Sectors, internal and external service providers, small, medium, and large enterprises, and within any technical environment.

Best practice – ITIL service management practices represent the learning experiences and thought leadership of the world's best-in-class service providers. Good practice – Not every practice in ITIL can be considered 'best practice', and for good reason. For many, a blend of common, good, and best practices is what gives meaning and achievability to ITSM. In some respects, best practices are the flavor of the day. All best practices become common practices over time, being replaced by new best practices.

Benefits of ITIL: -According to (Kolarovszká, 2013)some of the benefits obtained by those organizations that implemented the process and techniques of ITIL are listed below.

- Increased user and customer satisfaction with IT services.
- Improving service availability, directly leading to increased business profits and revenue.
- Financial savings from reduced rework lost time, improved resource management, and usage.
- Improving the time to market for new products and services.
- Improved decision-making and optimized risk.

ITIL V3 Service Lifecycle: ITIL V3 offers guidelines on deciding what services to provide and how to manage them and helps IT organizations efficiently deliver value (services). Each publication represents a phase of the lifecycle and is noted in the following figure:

Figure 2.5– The ITIL Core (source: (Office Government Commerce, 2007))

2.3.1.1 Service Strategy

A service strategy is critical in the context of all processes along the ITIL service lifecycle. The purpose of the service strategy phase is to define the perspective, position, plans, and patterns that a service provider needs to be able to execute to meet an organization's business outcomes. A service strategy is located at the center of the service lifecycle, where value creation begins with understanding organizational objectives and customer needs(Binders & Romanovs, 2015).

2.3.1.2 Service Design

In the Service Design phase, new or changed services that are aligned with the business goals (defined in Service Strategy) are designed and developed for introduction into the production environment. The processes that govern the management and delivery of services are also developed in this lifecycle phase(CAI, computer Aid, 2008).

2.3.1.3 Service Transition

Establishing a formal policy and common framework for implementation of changes, to ensure that all required activities are carried out and all relevant risks are considered. And also include supporting knowledge transfer, decision support, and reuse of processes, systems, and other elements. Effective service transition is delivered by involving all relevant parties, ensuring appropriate knowledge is available and that work is reusable in future similar circumstances(itSMF UO, 2011).

2.3.1.4 Service Operation

According to(Chan, Durant, Gall, Chan, & Gall, 2008) service operations provide the services and support efficiently and effectively. And also includes the following activities.

- ✓ Help users on failures/errors, basic transactions, helping with "how-to" and "what if" questions, by identifying issues through monitoring and interaction with users managing/handling the functional needs.
- ✓ Assess and fix/resolve (conditionally) the errors related to Interfaces.
- ✓ Coordinate with MIS and other Support groups for data errors.
- ✓ Guide the end-users and support them.
- ✓ Monitor scheduled jobs or transactions.

- ✓ Monitor the processes and provide feedback to users

2.3.1.5 Service Continual Service Improvements

Provides a framework for Continual Service Improvement. Service performance is measured at each stage ensuring that IT align and continually realigns to the needs of the business. This stage makes it clear that, for organizations to become more proactive, assessments must be a continual process, rather than one that only happens when a failure occurs(Chan et al., 2008).

2.3.2 COBIT

Cobit is a globally accepted framework for IT governance based on industry standards and best practices. Once implemented, executives can ensure IT is aligned effectively with business goals and better direct the use of IT for business advantage(Hardy & Hesch, 2008). Cobit was initially developed as an IT benchmark consisting of best practices. Cobit provides managers, auditors, and IT users with a set of generally accepted measures, indicators, processes, and best practices to assist them in maximizing the benefits derived through the use of information technology and developing appropriate IT governance and control in a company. The COBIT mission is to research, develop, publicize, and promote an authoritative, up-to-date, international set of generally accepted information technology control objectives for day-to-day use by business managers and auditors. Managers, auditors, and users benefit from the development of COBIT because it helps them understand their IT systems and decide the level of security and control that is necessary to protect their companies' assets through the development of an IT governance model (Sheikhpour, 2016). According to (Hill, Network, Turbitt, Practices, & Software, n.d.)COBIT establishes a set of 34 high-level IT processes divided into four categories:

Plan and Organize (PO): -This category covers strategy, tactics, and the ways that IT can best contribute to the business objectives. It includes planning for proper organization and technological infrastructure.

Acquire and Implement (AI): - deals with identifying and implementing IT solutions. Changes and maintenance of existing systems are also covered in this category of processes.

Deliver and Support (DS): -covers the delivery of services as well as data processing by application systems.

Monitor and Evaluate (ME): - it is the process that includes internal and external auditing, quality assurance, and compliance issues.

2.3.3 ISO/IEC 2000

The ISO/IEC 20000 objective – inherited from BS 15000 – is to provide a common pattern of reference to any company, which offers IT services to internal or external clients. Due to the importance of communication to the Services Management, one of the most important objectives of the standard is to create a terminology common to service providers, their suppliers, and their clients(Hill et al., n.d.).It is the latest version of the IT Service Management System which applies to all Information technology service providers (internal or external) and organizations depending on information technology suppliers to carry out its business activities, or simply wishes to improve the IT service management system(Chandra, 2012).

2.3.4 Microsoft Operation Framework (MOF)

MOF is Microsoft's vision for IT service management. MOF is composed of three core models – process, team, and risk – that include the principles and practices that business people and IT practitioners need to manage IT operations effectively on the Microsoft platform. MOF provides comprehensive technical guidance for achieving mission-critical production system reliability, availability, supportability, and manageability on Microsoft's products and technologies (Zhang, Zhang, & Chen, 2018).

2.3.5 Vendor-Specific Frameworks

Different vendor-specific frameworks exist, including those that are specific to a vendor or proprietary to an organization. Hewlett Packard (HP) and International Business Machines (IBM) are some of those vendor-specific related to service Management.

Hewlett Packard (HP) ITSM:-This framework address issues such as strategic business-IT alignment, operational process adequacy, systems and software configuration, and environmental robustness**.**

International Business Machines (IBM) ITSM:-The IBM IT Service Management (ITSM) portfolio provides end-to-end visibility, control, and automation to help today's IT operations staff manage their company's business applications and services(BM & Management, 2016).

2.3.6 Service Management Excellence framework

A service management excellence framework (Figure 2.7) has been developed by (Marko, 2015;). This service management excellence combines process excellence, service excellence, and project excellence into a unified approach. Together with these types of excellence, service management excellence benefits from two supporting modes:

- Continual service improvement.
- Proactive service management.

According to this framework, continual service improvement mode may be targeted into three different areas in IT service management: IT Service Management processes, IT services, and service lifecycle. In many organizations, process-related challenges and bottlenecks exist especially in change management, incident management, and problem management. Challenges in the area of those mentioned processes may lead to too reactive IT service management which increases the number of failed changes, incorrectly assigned incidents, and extra work due to resolution efforts of repeating incidents.

Proactive service management is important because, in many organizations current service operation activities, methods, and procedures are mainly focused on reactive problem solving rather than proactive s to prevent the occurrence of service outages.

This framework also incorporates Business relationship management (customer view), social and knowledge management, and change management that affect how customers and staff see the evolution of service management excellence.

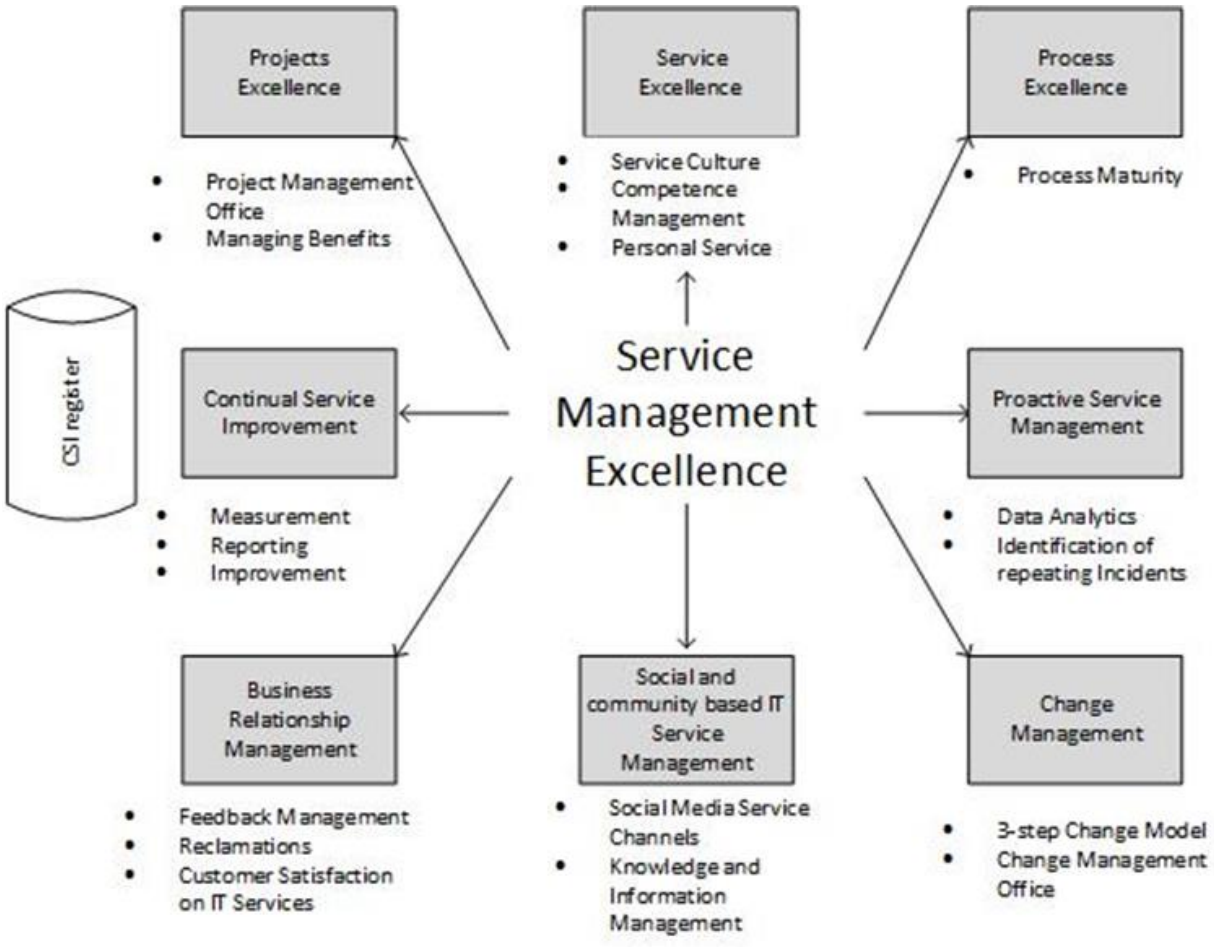

Fig 2.6 Service Management Excellence framework (Marko, 2015)

According to (Hertvik, 2017) the most famous and widely used ITSM framework is called ITIL (Information Technology Infrastructure Library). The Forbes Insight survey found the following frameworks are most popular:

1. ITIL – 47 percent of surveyed organizations use at least some form of ITIL
2. COBIT – 36 percent are using COBIT, which focuses on governance and connecting business goals to IT.
3. eTOM – 36 percent are using the Business Process Framework (eTom), which is most often used by telecom service providers
4. MOF – 34 percent use Microsoft Operations Framework (MOF), which provides another framework for managing the IT lifecycle.

Therefore, the researcher selected some of the ITIL processes to assess the current position of IT service management practices in the bank of Abyssinia.

2.3.7 PDCA cycle

According to (Moen & Norman, 2009) the PDCA model is widely applicable and easy to use. The model supports improvement efforts in all types of organizations and to all groups and levels in an organization and provides a framework for the application of improvement methods and tools.

Fig 2.7 The Plan-Do-Check-Act (PDCA) cycle (Mckay, 2017)

The PDCA is a model used in the process of continuous service improvement that operates in the company and is also simply associated with organizational culture. The most important point in the operation of the whole cycle is the moment when it starts from the beginning and causes further improvement of the process (Chojnacka-Komorowska & Kochaniec, 2019).

2.4 Challenges in the IT Service Management

IT service management is very important to enhance the performance of the business. Unfortunately, providing good IT service is not an easy task because of the specific difficulties experienced by organizations. Many challenges are hindering the successful implementation of IT Service Management. Some challenges pointed out according to (Cater-Steel, 2009) mentioned as follows:

- lack of management support
- cultural change in terms of resistance from technical staff
- Delays in establishing an appropriate toolset.
- integration of processes to provide end-to-end service

According to (Hochstein, Tamm, & Brenner, 2005) have related IT Service management challenges with the following challenges:

- The lack of acceptance and missing understanding of the necessity for introducing new processes.
- Lack of good organizational structure.
- Lack of documented IT service guidelines
- Resources and technical skills.

Even though the importance of IT Service Management has been recognized, the implementation process is a major challenge for the organization. Researchers have been recommending Standards and frameworks for IT service management improvements. However, various scholars like (Cater-steel, Tan, & Toleman, 2007; Cater-steel & Toleman, 2009; Pollard & Cater-steel, 2009; Tan, Cater-steel, & Toleman, 2007) pointed out different challenges listed below from empirical studies that related to IT service management which highly hinders organization in the process of achieving the required improvements.

- ***Lack of executive Sponsorship/Top management support:*** **-**lack of having Senior Management that formally decide the introduction of IT service Management and provide a binding decision regarding IT service operation hinders the IT service practices in the organization.
- ***Lack of resources:*** **-** Lack of adequate budget, personnel, and tools needed for the implementation of IT Service Management practices in the organization is mentioned as one factor that affects ITSM improvements in the organization.
- ***Lack of Internal skill/knowledge:*** **-**Poor skills and Knowledge related to IT service management frameworks hinder IT services operation in the organization.
- ***Lack of Funding:*** **-**Lack of sufficient funding for IT service management initiatives in the organization also challenges ITSM implementation.
- ***Organizational change /Cultural resistance to changes:*** Resistance to changes and Lack of managing change via keeping them informed, constant communication, and giving them training also an issue that hinders IT Service operation in the organization.
- ***Lack of business Understating:*** **-** lack of good alignment between IT service operation and business strategy of the organization is a challenge that hinders IT service operation. IT

Service Management should align with a business strategy of the organization to ensure IT service is in place to provide value or support business.

- ***Lack of maintaining momentum***: - lack of adequate attention for a continuous assessment and improvements of the IT service operation in the organization is also mentioned as a challenge in the literature.

2.5 IT Service Management Maturity

Maturity is understood as the stages or levels of improvement that characterize a specific entity. Maturity models describe stages of evolutionary improvement in a specific process or domain by measuring the specific process or domain (Mettler, 2011). However, according to (Wulf, Winkler, & Brenner, 2015) IT service is not being properly managed and measured rather than the attempt exists in some Organizations that try to assess the current ITSM practices at times want to look at the next areas of improvement in. From this we can understand, because not measuring the benefits from IT service is not at desired level, which means it is required for the organization to introduce a better IT service management practices.

Different models have been developed to measure IT Service related capabilities. For example, the Capability Maturity Model (CMMI), ITIL maturity model, COBIT, and SPICE. However, for the fulfillment of this research ITIL maturity model is selected. According to (Stark, 2018) there are five levels of process maturity, level 1 (lowest) to level 5 (highest), where each level signifies the level of performance that can be expected from an organization.

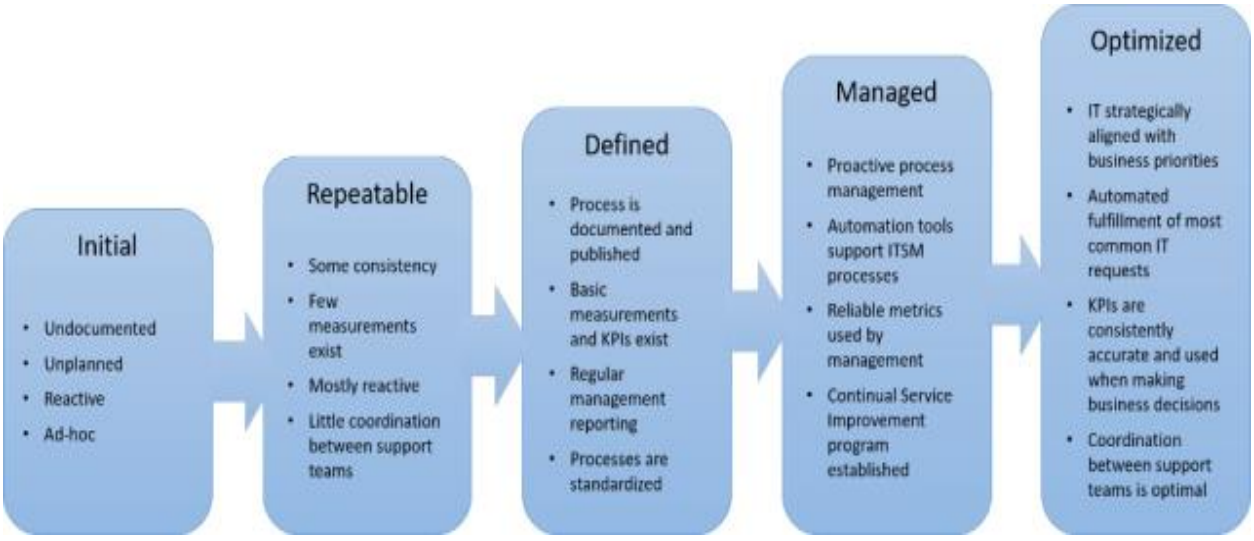

Fig 2.8 Maturity Level of ITIL

According to (Yamfas, 2018)Maturity levels are explained as follows

Initial: -Level 1 processes are described as chaotic, unordered, and undocumented. For example, if we are an organization, and we try to develop an application, we are at level 1. This application is in a state of dynamic change due to an unstable environment in that organization. For example, this case can mostly found in startups that rely on a single person to manage services processes.

Repeatable: - Level 2 processes are repeatable and might lead to consistent results. Organizations at level 2 employ skilled people, and processes are planned and executed in an ordered manner. Those organization's services are well documented, existing processes are maintained during times of stress.

Defined: -At this, level, standard, well-defined, and documented processes are established. All these processes are improved over time. This level differentiates itself from level 2 by the scope of standards, process descriptions, and procedures. In level 2, this scope can be different from one project to another. Whereas, in level 3, that scope follows the set of that organization's standards to suit a particular project.

Quantitatively Managed Quantitative objectives are collected and analyzed based on the customers' needs, end-users, organization, and process implementers. This analysis leads to quality and process performance results used in the management of projects. The main difference with level 3 is that the analysis information can be adopted in different Services where predictability of process performance is determined.

Optimizing: - At level 5, the organization focus on continuous process improvement which is based on the analysis and quantitative understanding of its business objectives and performance needs. Level 5 organizations focus more on the overall management and improvement of organizational performance based on results from different projects. This is different from level 4 because organizations focus more on understanding and controlling quality and performance.

One of the options to measure maturity is by comparing the IT service team's operations, planning, and processes to the international best models. In this context, the researcher decided to use the Information Technology Infrastructure Library (ITIL) is focusing on process resources (people) and process capabilities (supporting tools) to analyze the IT service management process.

According to (Payne, 2007) it's crucial to consider how the different elements of the ***people***, ***process,*** and ***tool*** triad are linked to each other. When delivering services, people use processes and tools to achieve the desired outcomes. The processes themselves are supported by tools and used by people. Those tools are designed to support the processes, and they should be easy to use.

According to MacDonald, 2010 as cited in (Eckerstein & Malmros, 2015) defines IT service management as a process that can be viewed from five different dimensions:

Vision: The overall direction as it relates to the role and position of the IT infrastructure and operations department within the business.

Process: The procedures needed to achieve the goals and objectives. Processes are a standard set of activities designed to accomplish a specific goal.

People: The skills and abilities needed to perform the processes.

Technology (tools): The supporting IT management tools and infrastructure needed to enable the processes to be carried out.

Culture: The behavior and attitude required concerning the role of IT infrastructure and operations within the business.

In line with these (Johansson, Eckerstein, & Malmros, 2016) also defines IT service management as a combination of information ***technology***, ***people,*** and ***processes***.

Based on the prior works (literature reviews) in the area of IT service management improvement, three components were identified and a theoretical framework has been developed as shown below in the figure.

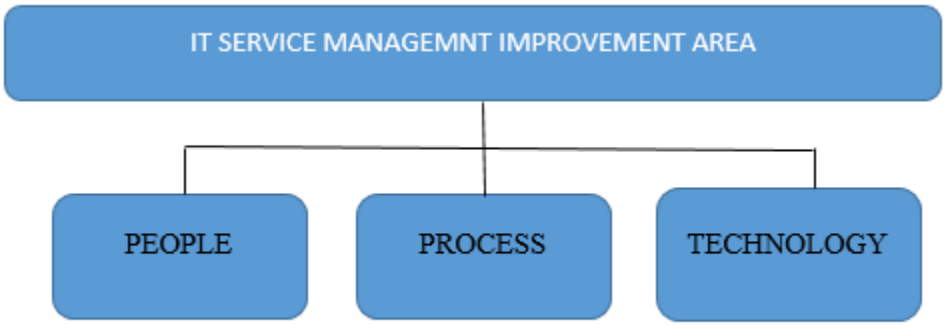

Figure 2. 9 Conceptual Research Model

According to (Rocha, Correia, Costanzo, & Reis, 2015) three improvement dimensions of IT service management such as ***People***, ***Process***, ***Technology*** is intensively known and defined as follows.

People-theme1: -This dimension looks after: -

People know what and how to perform activities.

They have the right skills and knowledge for the job.

They are motivated and engaged to achieve higher performance.

They are encouraged to improve day by day and they are involved in improvement projects.

Process-theme2: -the processes a set of interrelated work activities characterized by a set of specific inputs and value-added tasks that make up a procedure for a set of specific outputs.

Technology-theme3: Technology addresses the tools and techniques used to communicate and to make work efficient. Technology is facilitated by people and is supporting the processes to run smoothly.

Therefore, the researcher has chosen people, processes, and tools to investigate the ITSM challenges and measure maturity level ITSM practice in the bank of Abyssinia. However, assessing all processes described in ITIL under these three dimensions would be a difficult task and require more time. Because of this issue, the researcher adopted the most widely used proactive

Management of IT service Framework that has been developed by (Marko Jäntti and Cater-steel, 2017) as shown below in the figures.

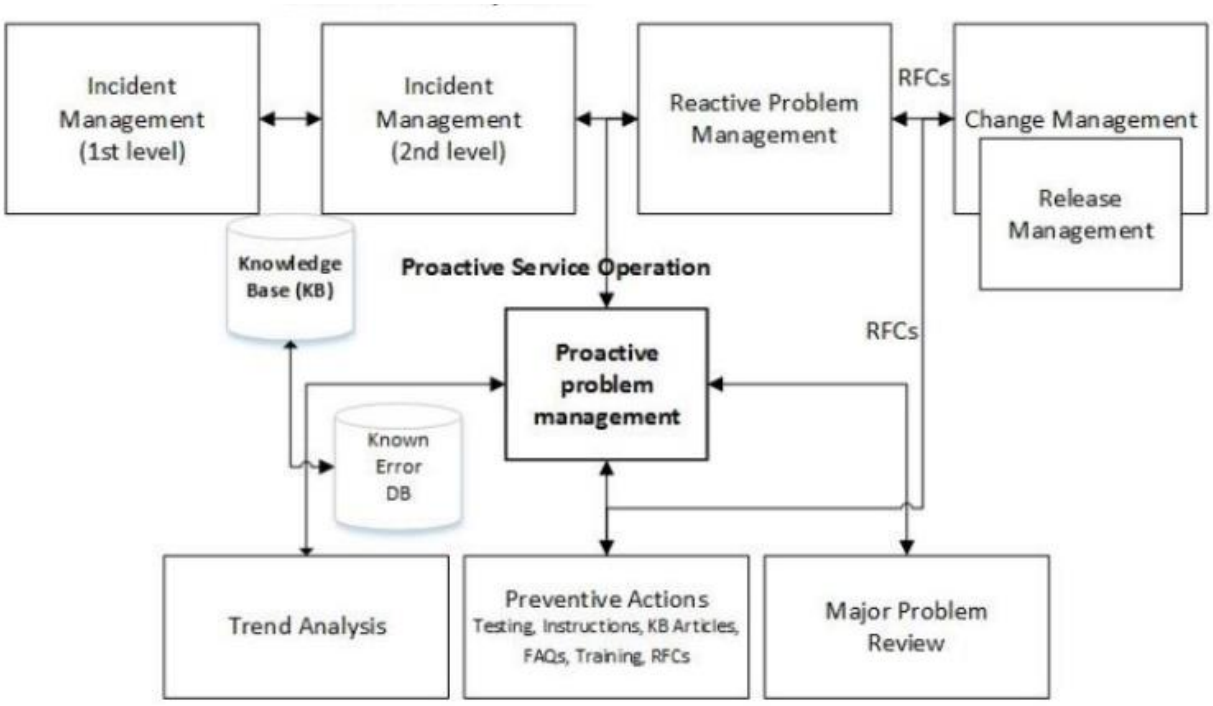

Fig 2.10 Generic Framework for management of IT service

The process dimension of the research will be limited to widely used 5 (five)ITIL process which is defined according to (Itil Axelos Limited, 2011)mentioned as follows:

Incident Management :-(ITIL Service Operation) The Process responsible for managing the lifecycle of all incidents. Incident management ensures that normal service operation is restored as quickly as possible and the business impact is minimized.

Problem Management: - (ITIL Service Operation) The Process responsible for managing the lifecycle of all problems. Problem management proactively prevents incidents from happening and minimizes the impact of incidents that cannot be prevented.

Change Management: - (ITIL Service Transition) the process responsible for controlling the lifecycle of all changes, enabling beneficial changes to be made with minimum disruption to IT services.

Configuration management: - *(*ITIL Service Transition) maintains one or more configuration management databases, and each database stores attributes of configuration items, and relationships with other configuration items.

Release Management: - (ITIL Service Transition) Release Management is all about enabling an organization's systems and services to change to support evolving business needs. It is the process of coordinating the movement of projects into production environments where they can be consumed by end-users. The primary goal of release management is to ensure that the integrity of the live environment is protected and that the correct components are released.

The output of the selected process assessment can be used for several parts of continuous service improvements described in Phase of ITIL, which provide the baseline for the step of where are we now. The researchers will be going to identify the gap by comparing the selected process against the selected standard maturity model. Moreover, the solution will be proposed to bridge the identified gap.

2.6 Related Works

IT Service Management issues have been addressed by several researchers, practitioners, and academicians. However, to the best of the researcher's knowledge, there is no obtainable work that largely identifies IT service management challenges and proposes improvements in Ethiopian Banks. Nevertheless, several works are highly related to this academic work. Some of them are listed below:

Local studies (Dr.Workishet and Alemiye, 2015) explored influencing factors that act as barriers and critical success factors to the implementation of ITIL in Ethio Telecom. The study was used the inductive approach as a research design and focuses on identifying barriers and critical success factors of ITIL implementation from the perspective of ITIL. This means the study mainly explores barriers in the journey of integrating the ITIL process with the organization's strategy rather than exploring barriers that exist on current practices on hands. From this, we can understand that alemiyes works focus on identifying barriers on the project i.e. not focus on exploring barriers connected with existing practices.

Marko Jäntti and Cater-steel (2017) explored current IT service operation activities and challenges at the selected organization. The findings indicate that the major challenges include a reactive rather than proactive approach to IT operations management and propose an improvement model. However, the proposed model lacks continual assessments and more focus on service support.

Lahtela & Marko (2010) identifies challenges related to the service support interface between an IT service provider and IT customers. The main contribution of this paper is to present challenges in a service support interface i.e. identifies challenges that exist between incident management interface and problem management interface and other processes. Therefore, this study a narrow focus on the service support process Interface.

Good to Great in IT Service Management by Brugh (2009) to improve the performance of customer service delivery teams. Identifies drivers behind the performance improvement of service delivery teams. This study also narrows focus on human factors to improve IT service management by enhancing service delivery team capability.

Table 2.2 Summary of IT service management related works

Author	Title	Objective	Finding	Knowledge gaps
(Marko Jäntti and Cater-steel, 2017) (Marko Jäntti and Cater-steel, 2017)	IT Proactive Management Of IT operation To Improve IT services.	To manage IT service operations proactively.	indicate that the major challenges include reactive rather than proactive approaches to IT operations management	✓ The model lacks continual assessments ✓ More focus on service operation
(Lahtela & Marko, 2010)	Improving IT Service Management Processes.	To improve IT service management processes.	Present challenges identified in a service support interface	A narrow focus on the service support process. Interface.
(Brugh, 2009)	Good to Great in IT	Improving the performance	Identifies drivers behind the	✓ A narrow focus on

	Service Management	of customer service delivery teams.	performance improvement of service delivery teams.	human factors.
(Diirr & Santos, 2014)	Improvement of IT service processes: a study of critical success factors	To identify critical factors for the success and failure of the improvement of IT service processes	The study identified factors such as project implementation Strategy, support, commitment, and involvement, processes, and internal and External resources.	
(Alemiye seife, 2015)	Factors Influencing The Implementation of IT Service Management Framework In Telecom company	This study aimed to explore influencing factors to the implementation of the Information Technology Infrastructure Library (ITIL).	Identifies barriers that Were common to most ITIL implementation processes, unique to a single case of the reviewed researches and confirmed by this study, and barriers that were typical to this study.	The study Specifically, focus o ITIL implementation.
(Marko, 2015)	Towards IT Service Management Excellence	To create a service management framework	Present a preliminary version of the Service Management Excellence framework.	High-level framework

(Borura & of Nairobi, 2015)	IT Service Management Support for IT in Company X	The purpose of this thesis was to describe how the services of IT Service Management Support are provided and organized in Company X for the IT organization itself supporting and delivering the IT services for the customer.	The study reveals services of IT Service Management Support differ depending on the organization and this thesis presents one way how to organize these services.	
(Kolarovszká , 2013)	Application of Information Technology Service Management Within Selected Logistics and Transport Services	To design an IT service management model for Tracking and Tracing services	the proposed process model of IT service management in the logistic enterprise is based on various stages of the IT service lifecycle	The study lack exploration of existing Challenges In The organization Understudy

(Praeg & Schnabel, 2006)	The conceptual framework for IT service performance management using the BSC	To introduce a framework for IT-service performance management and focuses on a cachet for IT services to evaluate offers from external service providers in the procurement process.	ITSM Improved service quality, user satisfaction	Only focused on quality and user satisfaction
(Tadesse Dabi, 2017)	Developing Tailored ITSM Framework Ethiopia banking industries	To develop ITSM Framework based on ITIL Framework For Ethiopian Banking Industry.	proposed based tailored ITSM Framework	A narrow focus on ITSM process dimension and also the study forget issues related to process prioritization
(Wan & Liang, 2012)	Challenges of ITSM implementation using Multi Case Approach	To reduce the complexity of the ITSM project's implementation.	Elicited challenges and difficulties connected with ITSM implementation	Need to link the barriers to the level Of IT Service Management

From the above table (Table) it can be observed that a lot of researches has been done on the IT service management area. However, still IT service management challenges less identified in the case of developing countries. In the case of a developing country like Ethiopia, especially in the banking industry, IT service management challenges are not identified well.

Thus, this study intended to investigate challenges related to current IT service management practices and suggest improvement in the context of Ethiopian banking industries.

2.7 Chapter summary

Discussing the area of IT Service Management is the focus of this chapter. Therefore, different literature reviewed and discussed, specifically focusing on the area of IT service management such as the definition of Services, IT Services, IT Service Management, the importance of ITSM, ITSM frameworks, ITSM related challenges, and ITSM maturity. And also the details of ITIL, which is one of the most widely adopted IT Service Management frameworks were presented.

And also the conceptual model was established by reviewing prior literature that exists in the ITSM areas by a combination of People, Processes, and Technology. Finally, related works were presented and gaps were discussed.

Chapter Three

3 Methodology

In this chapter, to answer the research problem or understand an area of interest in detail, the researcher has discussed the appropriate research approaches and the research design used to achieve the objectives of this study. Moreover, under research, Design also covers data collection and analysis techniques of the research study. Hence, the research methodologies, data collection methods, and data analysis methods used to answer the research questions of this study are briefly introduced as follows.

3.1 Research Design

Research design can be considered as the structure of research it is the "glue" that holds all of the elements in a research project together, in short, it is a plan of the proposed research work (Akhtar & Islamia, 2016). As mentioned above this study aims to identify IT service management challenges and recommend improvements in the bank of Abyssinia. And identification of ITSM challenges requires details investigation in the case organization. Therefore, the qualitative research approach was selected since qualitative research connected itself with an in-depth investigation of phenomena, this study follows the qualitative research approach. Moreover, according to (Creswell, 2009) the qualitative approach has unique steps in analyzing data and draw on diverse designs and draws meaning from various types of data sources, using a specific protocol to record data, analyzing data through multiple steps, and mentioning approaches used to reveals the reliability and validity of the data collected.

In this research, a case study method was used. Because a case study method provides tools for researchers to study complex phenomena within their contexts (Song et al., 2016). The case study method helps the researcher to gain the general and meaningful characteristics of real-life events such as small group behavior organizational managerial processes (Yin, 2009). As a result, the researcher selected the case study method to deeply identify the current ITSM challenges and improve ITSM practices in the Bank of Abyssinia. This leads the researcher to understand ITSM in a better way by getting a more compressive picture of IT services.

3.2 Case Study

A case study is an empirical study that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not evident (Yin, 2014). In other words, the researcher used the exploratory case study method because wants to understand what challenges exist in-depth and investigates the ways of improvement of IT service management in the context of BoA.

According to (Yin, 2014) there are four types of design in the case study as shown below;

Single Case design holistic: - type of single-case study that involves one unit of analysis.

Single Case design embedded: **-** type single-case study that involves more than one unit of analysis. This occurs when, within a single case, attention can be also provided to a subunit or subunits.

Multiple Case Designs holistic: **-** type of multiple-case study that involves one unit of ***a***nalysis.

Multiple Case Designs embedded: **-** type multiple-case study that involves more than one unit of ***a***nalysis.

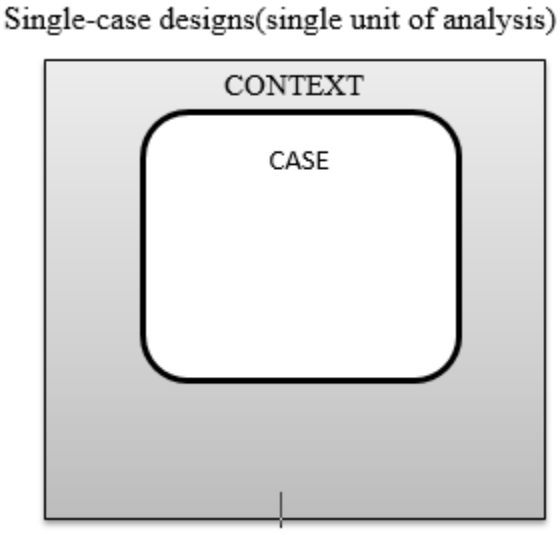

Fig 3.1 Basic Types of Designs for Case Studies

In this study, the researcher selected a single case study because of time and resources. A major step in designing and conducting a single case is defining the unit of analysis (or the case itself).

Therefore, in the study, BoA is the case and IT departments of the organization are the primary unit of analysis.

3.2 Method of Data collection

To investigate IT service management practices semi-structured interview was used for the collection of data. Interviews are the most appropriate data collection method where little is already known about the study phenomenon or where detailed insights are required from individual participants (Gill, Stewart, Treasure, & Chadwick, 2008). Therefore, to collect data from the senior IT staff, managers, and directors in the area Semi-structured interview questions have been developed from IT service management-related literature and adapted from the ITIL self-assessment model. Those questions help the researcher to get more clarification from the respondent in the practices of the area. Besides, as a secondary data collection technique, documents, and tools of the organization under study were used.

Qualitative data collection method the researcher going to use discussed as follows:

Document **Analysis**: it is a process of examining documents (e.g., official memos, minutes, records, archival material) to understand the phenomena being studied (J. Creswell, 2013).

Interview: a series of steps or procedures in understanding people's experiences, perceptions, opinions, feelings, and knowledge of the phenomena being studied (J. Creswell, 2013).

Observations: Observation is one of the key tools for collecting data in qualitative research. It is the act of noting a phenomenon in the field setting through the five senses of the observer, often with an instrument, and recording it for scientific purposes(J. Creswell, 2013).

Therefore, in a study, the question used for the interviews was developed based on the above conceptual research model. The questions of the interview are focus on understanding the challenges that exist in the area of IT service management in the context of BoA.

3.3 Sampling and Population

The researcher selected purposive sampling for the qualitative approach. Purposeful sampling helps the researcher selects individuals and sites for study because they can purposefully inform

an understanding of the research problem and central phenomenon in the study (J. Creswell, 2013). The target population is drawn from the IT department of the Bank of Abyssinia and the experience of the individuals was considered to have in-depth information. And the samples in this research consist of 8 IT managers. In addition to this, 5 years' experience also takes as a criterion.

According to (J. Creswell, 2013) the general guideline for sample size in qualitative research is not only to study a few sites or the researcher but also to collect extensive detail about each site or individual studied. As a result, in this study, the researcher conducted the interviews by considering time, resources, and sample size determined when the saturation point is achieved.

3.4 Method of Data Analysis

Analyzing qualitative data entails reading a large number of transcripts looking for similarities or differences, and subsequently finding themes and developing categories (Wong, 2008). Since the main data collection method for this study will be an interview, the researcher will categorize the interview transcription to get insight or find meaning within the collected information using thematic analysis. According to (Maguire & Delahunt, 2017) the goal of thematic analysis is to identify themes i.e. patterns in the data that are important or interesting, and there are different types of thematic analysis, which use these themes to address the research issues.

Inductive Thematic Analysis: The data will be coded, categorized for analysis, without trying to fit it into the preexisting coding frame. In this sense, the analysis process is driven by data collected during the evaluation period rather than any analytic preconception (Braun & Clarke, 2006).

Deductive Thematic Analysis: deductive thematic analysis, the codes and their connections have already been derived from the literature, and are represented by the propositions (Pearse, 2019).

In this study, the researcher used deductive thematic analysis to present the results of the interview based on the IT Service Management conceptual model, which contains the process, people, and technology. Nvivo was used as a way of managing, organizing, and modeling data collected from a semi-structured interview conducted at the Bank of Abyssinia. The first step was to transcribe recorded audio and written data (notes has taken) immediately after the interview was completed under each theme. Then, reducing the transcription and code assignation was done. The nodes

were later grouped into previously identified themes. To get a quality result the process was done iteratively.

3.5 Rigor and Trustworthiness

According to (Sarrigeorgidis & Rabaey, 2003) the accuracy and truthfulness of the finding define or shows the soundness of the research and trustworthiness depends on the ability of the researcher to collect and record information accurately and as well as concerned with the consistency, stability, and repeatability of the respondent's accounts.

To check the goodness and trustworthiness of the research, the researcher accomplished the following tasks:

- Compare or cross-check the results of the interview, document analysis, and observations applied for triangulation.
- Multiple data collection techniques were employed to minimize researcher bias and confirm the findings.
- Respondents were communicated and the interview question was given to them before making the interview. This process helps the researcher to get a more reliable answer from the respondents.

3.6 Chapter Summary

The purpose of this study was to identify IT Service Management challenges in the bank of Abyssinia. Therefore, the research design and methodology that help to achieve the research aim have been discussed in this chapter. The chapter explained that qualitative research was used in this study. It's also discussed Primary data were collected using semi-structured interviews. The qualitative data which has been collected using semi-structured interviews were analyzed and triangulated with data from observation and document review to answer the research questions. Finally, Steps that were performed to address the Validity and reliability issues of this research have been also discussed in this chapter.

Chapter Four

4. Analysis, Finding, and Discussion

In this chapter, the data gathered through a semi-structured interview will be analyzed and the finding will be presented. The aim of presenting and analyzing the data in this section is to provide insight into the study and discuss the finding on the journey of the study.

4.1 Background of the Case Company

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 by 1960 Ethiopian commercial code and the Licensing and Supervision of Banking Business Proclamation No. 84/1994. And started its operation with an authorized and paid-up capital of Birr 50 million, and Birr 17.8 million respectively, and with only 131 shareholders and 32 staff (*https://www.bankofabyssinia.com/*).

Currently, BoA has devised its fifth generation of five-year strategy that runs 2019/20-2023/24. In this strategy, the value discipline of the Bank has been revised to operational excellence. The Bank strives to achieve a competitive advantage by excelling in operational excellence and by maintaining a 'good enough level in the other value disciplines. This implies that all business units in BoA should gear their efforts towards bringing excellence in products and services offerings across all channels, provide standardized, simple, fast, and hassle-free services to customers through strong and well-focused operations, and building capabilities through continuous process improvement and effective collaboration between the front and back offices. In doing so, the Bank shall satisfy its long-term aspiration of becoming a leading commercial bank in the East African region. The strategic themes (i.e., pillars of excellence) that the Bank would focus on would be growth, operational excellence, and digitalization-the collective attainment of which will uphold the Bank's vision (http://boaportal/BOAPortal/Departments.aspx).

The authorized and paid-up capital of BoA as of 30 June 2020 is Birr 3.15 billion, a total deposit balance of Birr 47.5 Billion, and total loans and advances of Birr 24.99 billion, which in effect enhance the risk absorbing and the lending capacity of the Bank. BOA has more than 6,700 staff and 1,112,177 account holders and 2,176 shareholders. And also works with known money transfer agents such as Western Union, Express Money, Ria International, Trans fats, Dahabshiil,

MoneyGram, kaah, and Ezremit.BOA. In 2012 BOA has got 1.08-billion-birr annual profit before tax. (https://portal.bankofabyssinia.com/about-us/).

In this regard, the Bank's business strategy takes into account the current and future capabilities of Information Technology. Information Technology has opened up new markets, new products, new services, and efficient delivery channels for the banking industry. Online electronics banking, mobile banking, and internet banking are just a few examples. There are six (6) Information system departments, namely Program Management, Application Management, Infrastructure Management, Management Information Services (MIS), IT Security, and Service desk departments. Under this department, there are around 16 divisions (IT Work units) each with different objectives and responsibilities (http://boaportal/BOAPortal/Departments.aspx).

4.2 Profile of Interviewees

To get quality information respondents were asked about their position and experiences in the organization. The following table shows the profile of the respondents.

Position	Experience in years
Director (D1)	20
Manager M1	10
Manager M2	11
Manager M3	12
Manager M4	11
Manager M5	8
Manager M6	11
Manager M7	8

Table 4.1 profile of the respondents

From the above table, the position and respondents experience included in the interview list is good to answer the research question raised by the researcher. Here manager is the highest responsible position in the division. Total numbers of eight (8) participants and 8 divisions have participated in the process of data collection.

4.3 Case Study Analysis

In this section, thematic data analysis is used to analyze the data collected through interviews, observation and various document analyses based on three dimensions of ITSM i.e. people, process, and technology. To analyze interview results Nvivo data analysis tools were used.

The three themes developed from prior works to identify challenges related to IT service management improvement listed as follows:

- Theme-1: Process
- Theme-2: People
- Theme-3: Technology

4.3.1 Theme-1: Process

Results from observation and document analysis indicate in BoA, regarding the process, there is no fully documented process for each division found under the Information system department, which can be accessible for every employee of the banks except for some divisions that prepared and load prerequisites needed to get the service they provide for users. For Instance, the application division, which has been found under service desk departments, put the information and the authorization required to get user access-related services for the user like a request template or format. Therefore, the end-user can use this request template to request any user-related request. There are various practices of managing incidents, problems, and changes under that different division. However, there is no defined clear incident management, problem management, and change management procedure almost under all divisions except for some partial practice under the service desk department. Accordingly, the above results also supported by interview data, that shows a process related gaps under the various division of Information System departments that stated below.

Lack of measurement: *Manager **M5** stated that" …There is a big limitation regarding both service and individual performance measurement, which need special attention. For instance, the banks measure the behavior aspects of the employee like honesty, punctuality, ability, etc. that have their impact on staff development trends. As far as I know, there is no quantifiable individual and service performance measurement in place…".* This shows the bank didn't emplace process-based service and individual performance measurement that helps them to enhance current practices.

*In connection with this, another manager **M3** also said that" …since our departments work with different work units' process metrics highly required between us (works units). However, still to the best of my knowledge, there is no implemented measurement system on the ground ..."*. This idea also indicates that there is no clear measurement for those processes carried out between two or more departments of the bank.

Lack of documented Service procedure: *Director **D1** said that "… I have seen from my long experience the culture of documenting services or activities is really poor or we can say even not exist. For instance, because of not having documented service procedures all staff under my division handle the issue when the incident happens in various ways".* From this, we can understand that it's difficult to ensure a single point of truth i.e. to shape or enable everyone in division to work in the same way towards the same outcomes. *Moreover, another manager **M7** also said," …as you know this is a new division that established after a new structure and we have a new team member because of this there are no documents that help us to handle those services assigned under our division. Therefore, we are facing difficulty whenever the branch user need our support even if for ordinary request due to not having documentation that helps us in the effort of delivering service (report).".* This shows the absence of well-documented procedures leads to an insecure environment that it is difficult to monitor or measure the process or services.

Policy and procedure: *Director **D1** said that" …even those of policy and procedure exists in our work unit's lacks flexibility. For instance, sometimes the end-users call for balance difference (working, ledger, and current) adjustment requests when the customer is there without including formal requirements. In our end, there are no agile policy documents that help us to support them without including all prerequisite information".* This shows the absence of policy documents slows the process of providing what a customer needs timely.

*Moreover, another manager **M6** also said" … our division has the responsibility of creating and updating user access role. However, there is no user control access policy, which makes the process of granting and updating the user role rather than unwritten trends that lead the staff to vulnerable security issues…".* This shows the absence of policy documents leaves the employees with a more insecure way of doing work that is difficult to control.

Lack of clear process (service) boundary between divisions: *Manager **M7** said that" … because of an unclear role or lack of process alignment, there is a conflict of interest between different units they do not perform towards the strategic objectives of the banks. For instance, my division works with other divisions to extract data from different systems. Since the owner of that data is not us process alignment is required, however, there is a problem in this case even the owner of that data does not think helping us on this process is also their responsibility…".* This thought too upheld by document and observation results that show the absence of clear process or service boundaries. As the reason, it's appropriate for the units of the banks to put fault exterior of their units.

*This idea is also supported by Director **D1** who stated, "… There is a problem with following and handling the issue escalated from the first line support. This might be difficult for our partner (service requester) to provide efficient services for the customers. For instance, I can show you on the system that some of the issues wait for a week or even more than a week. I think this happens because there is no clear role or process owner at the second level which takes responsibility …".* This indicates lack of a clear process leads the bank to poor service management in which the links between different units not good and leads various units to handle overlap activities or works.

Change management procedure: *Manager **M2** said," the changes are not timely notified and communicated as a result the employee is unable to familiarize and adopt the changes. In addition to this, proper training has not yet been given to employees accordingly.".* This shows even if the change management process is important, there is no emplace change management system that reduces the impact of changes and supports employees to understand the change process.

*Manager **M3** also supports this idea by saying," … there is no proper written or known change management procedure and this causes miscommunication, mishandling, and even sometimes no one takes responsibilities for certain changes.". And also manager **M7** said that" … not only in our department as a bank there is a problem regarding change management. For instance, practically because of not informing us some implemented changes sometimes data extraction fails which has an impact in one or other ways on the business…".* This shows even if the impact of change management is critical, it has not been seriously taken by the BoA.

4.3.2 Theme-2: People

According to the interview data, the results shows a people related gap under the various division of Information System departments, which is stated as follows.

Lack of required skills: *Manager **M5** said that" money of our employees not that much aware and could make a great impact to have detail-oriented organizational skills. Skill to have each resource that is required for their works and make it organized and improved".* According to this thought, there is a lack of organizational specific work skill to achieve its operation. *The interviewee with another manager **M2** also supports this idea, "my department handles service requests and incident requests to whoever asks as well as manages and resolves an incident. However, because of our employee's skill limitation in problem identification we fail to respond to incidents timely". Moreover, another manager **M6** also said, "...it is difficult to get people who have mixed understanding (technical Skill and Business skill) in the market. For instance, if you are technically good and you cannot interpret the requirements from the business side it means that your ability to handle this works is below an average (50%)...:* This shows the bank lacks employees that have both IT and business-related skills to achieve its goals.

Manpower: *Director **D1** said that "the banks invest highly on new technology, projects (For example you can see ERP project) and services so far. However, to run these projects and services properly high and quality manpower is required in which currently it's a low investment". The interviewee with another manager **M2** also supports this idea, "As I told you before my department handle service requests and incident requests. However, it is difficult to handle, the large volume of the request raised by the end-users with the currently available workforce under my department.*

Lack of business understanding: ManagerM3 *said, "To be precise and clear, there is no common business understanding (at least concerning my department). All have different understandings except the basic common money understands which is BoA is a business entity and therefore, at the end of the day it requires profit". The interview with another manager **M 1** also supports this idea, "there are some gaps in understanding bank objectives and our division objectives (functional plan) which has an impact to achieve our functional plan".* From this, we can understand there is a gap in business understanding. If the IT team did not understand the

business well, it's difficult to support the business. This is a very critical thing and the bank should have to narrow this gap.

Collaboration and communication: From the interview results we understood that there is no collaboration among each other. The units lack the essence of working as a team towards the common objectives of the banks. In general, all the units tried to accomplish the tasks assigned to them.

*ManagerM**2**said, "Poor collaboration and communication culture has an impact to work in collaboration with other divisions and to convince the top management and request for new support whenever it's required. For example, request to purchase for new security tools". The interviewee with another manager **M4** also supports this idea, "There is a miss understanding between different Divisions of IT. Things like collaboration (working together or sharing information is not adopted). Each division focuses on working their works rather than cooperation and working together".*

4.3.3 Theme-3: Technology

Regarding the technology specifically tools used to manage IT services we observed that each division has its tools to manage IT-related services. For instance, some of the following tools are used to support IT service management.

Network monitoring tools (Observium and PRTG monitoring tools): these help them to know the availability and overall performance of the networks. For instance, they use these tools to monitor branch network or device statuses like Router, Switch, and ADSL. Here what I have observed was they monitor simply the status and fix the issue. Even if there is a partial procedure regarding the incident and problem management, they are not strictly following it because they think of all issues like incidents and fix them. They do not follow incident and problem management boundaries to provide a better solution. Moreover, they do not use tools database to analyze and identify the most frequently occurred issues.

Solar winds Service desks (ticket management system): This Software used to simplify IT service processes from ticket creation to resolution. And Automated ticketing management with rule-based routing and escalation, real-time tracking, and alerts. However, from the analysis of tool review and observation results, the researcher identified the following challenge related to technology:

- There is no clear escalation rule meaning that there is a deviation from individual to individual.
- Clear Service boundary between (For example, between incident management and problem management).

According to the below interview data, the above-specified Technology related gap line with the interview results stated below.

Lack of self- portal*:* Manager Service **M2** said *"… no system helps our employees to easily access documentation or website that supports them. As I told you, we are the first-line contact for branches and they reach us both on the call and system request. so because of not having a self-service system, we handle too many calls and requests*". From this, we understand that due to the lack of a formal self-service portal it's difficult for IT teams to answer all the requests raised by the bank employees.

Reporting tools and data: There is a gap in understanding and using the reporting tools and data of the bank for decision making.

Manager **M6** said that*" the trends of not having and using reporting tools have an impact on both employee development trends and BoA performance improvements".* Interviewee with another manager **M4** also supports this idea," *we observe a consistency issue regarding the performance of our employees. But, it's challenging to solve this issue without helping data(reports) that is relevant and timely for the manager to communicate the staff and create mutual understating on issues".* And another manager also **M7** said that*" … our division provides different reports for various business units by extracting data from different systems (Core banking (T24), Select system, online banking, etc.). However, there is a limitation with the report we are providing it might be because of tools complexity, technical skill, source of data, and unclear requirements from business units*.". If the bank did not use its data for decision-making, how it could compute in the market? We observed the bank trying to narrow this gap. Unfortunately, it seems is not strong and they did not give the required attention.

Interoperability: we observed there are various technologies are implemented to enhance IT Service Management. Unfortunately, there is lack of properly integrating those technologies for better values. The underneath interview results also show this.

*Manager **M7** said that" …we use different tools to extract data for instance previous tools are very not integrated. Currently, we have two tools namely, ifcas and talent server. Ifcas used to extract data from T24 (XML) and transform it into relational data. Talent server extracts from different sources (Human resources, finance, mobile banking…) and puts data into the destination database. So at least by using those tools, we can put data in one destination. However, still, there is a limitation regarding integrating data for a single purpose which we are considered as a big issue…" This idea was also supported by Director **D1** who said, "… to improve performances of services we signed a contract (Service level agreement) with a second level. But, there is a limitation on its enforcement because it's a simple paper-based and not supported by system meaning that it is difficult regarding linking one's division or individual duty with the performance management system of the banks …".*

4.4 Discussions

As presented previously the objectives of the research were to present the current maturity level of ITSM, present challenges, and recommend improvements for BoA based on data collected. Therefore, in this section, the researcher discussed those finding related to the research question.

4.4.1 Research Question 1 (Current ITSM Maturity Level?)

The first research question raised by the researcher is "what is the current maturity level of ITSM in the context of BoA?". To answer this question the researcher has mentioned three dimensions, ***people, process, and technology*** with selected Five ITIL processes (*incident management, problem management, change management, configuration management, and release management*) which were adopted from (Marko Jäntti and Cater-steel, 2017) model. Under three dimensions, there are 15 main items in this dimension. For instance, under the people dimension, the below items are found.

- Skill requirements
- role defined and documented

- stakeholder involvement
- management commitment
- Training program defined and documented

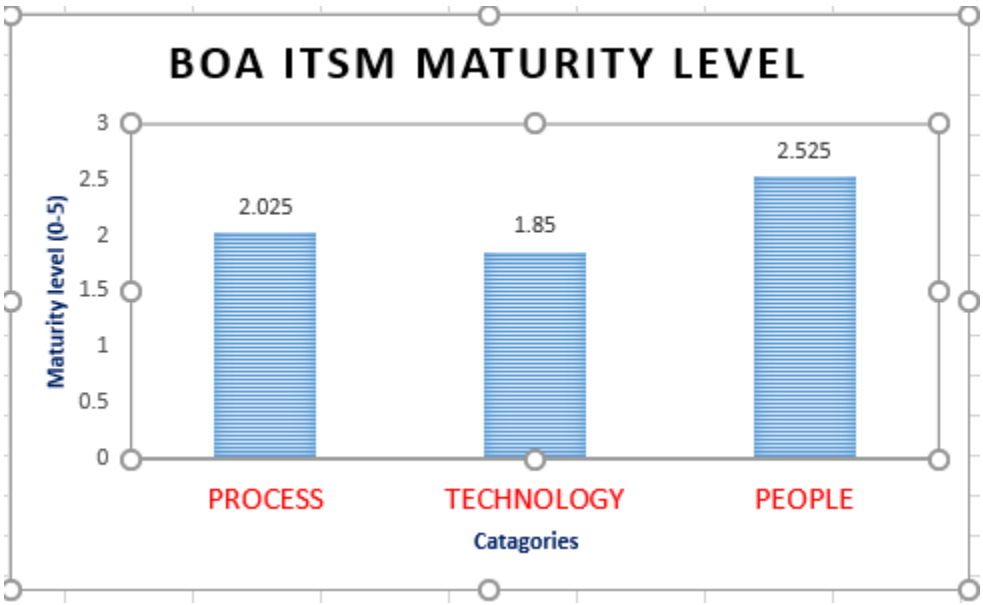

Figure 4.1 Current ITSM Maturity Level of BoA

Each of the above items scaled from one to five. The lowest state indicates the nonexistence of the services or process and five indicates the existence of an optimized state.

DIMENSION	LEVEL
PROCESS	2.025
TECHNOLOGY	1.85
PEOPLE	2.525
Total Maturity	2.133

Table 4.2 Current Maturity Level of ITSM practice in BoA

From the above Total maturity level value, it has concluded that the IT service management level is on the second level i.e. organization is at a repeatable state. The interview results also indicate more challenges identified under both processes and technology. Therefore, the maturity level indicates there is a challenge that hinders IT service management practices in BoA.

4.4.2 Research Question 2(What are current ITSM challenges in BoA?)

Regarding the second research question, identifying ITSM challenges in the contexts of BOA the above challenges are presented according to data analysis results within three dimensions. Under this section, the researcher discussed each challenge that requires improvements to achieve effective and efficient IT Service Management in line with prior works.

As stated in the analysis results, the respondent mentioned a ***lack of measurement.*** This defect has an impact on IT service management improvement and employee development trends. In line with this challenge previous research conducted by (Cater-steel, 2011) stated that despite the appeal and the potential to realize benefits, the practice of ITSM is hindered by the difficulty in measuring performance. Another prior work conducted by (Gacenga & Cater-steel, 2011) also supports this which stated one of the challenges faced by organizations adopting service orientation is the measurement of the performance of IT service. On interview, we have also perceived that service measurement yet not implemented. This results in the bank having a measurement system that did not promote effective and efficient IT services.

In this study ***lack of documented service procedures was*** also identified, which has an impact on IT service management, in delivery of IT Services, and improving activity flow. In the interview, we have the respondent indicated that the culture of documented service procedure is weak and hinders the efficient way of providing IT service. In the absence of a clear service procedure, it's difficult to provide error-free and quality IT service which helps the bank to meet its objectives. In line with this concept before works conducted by (Rudolph & Krcmar, 2009) states that the lack of documentation leads to a missing alignment of the service portfolio to current business needs. To achieve higher maturity levels of ITSM, all participants have to improve their documentation and the underlying processes.

Lack of agile policy and procedure agility of the services is one of the emerging issues in ITSM which can be enhanced by the policy. IT services should be able to respond quickly to business agility to leverage change for competitive advantage (Lichtenstein, Nguyen, & Hunter, 2007). As we have observed in our findings lack of agile policy and procedures hinders IT service management practice. For instance, absence policy documents slow the process of providing what a customer needs timely and leave the employee vulnerable to risk. To improve IT service

management agile policy and procedure are an essential part of the organization which provides a roadmap for day-to-day operations and ensures compliance with laws and regulations of the banks. As we have observed in our analysis is results, ***a lack of clear change management procedure*** hinders IT Service Management. According to the interview, data especially normal changes and emergency changes are serious issues in the BoA. Some of the respondents also told us employees don't always inform even for the minor changes like the core system restart(T24) which affect all users across the banks as result uncontrollable call comes from the branches to the first line support division. This means the BoA fails to involve employees in the change process and this results in the losses money, time and customers. Prior works conducted by (Cater-steel & Toleman, 2009) also states Change management is a central issue in ITSM implementation as they require staff to work across functions under a redesigned process environment.

As stated in the analysis results ***skills (expertise)*** presented as a challenge, according to some of the respondents there are skills gaps. For instance, the required skills to extract, analyze, and interpret data from various systems for decision-making. This depicted that lack of skills is an influential factor that hindering the process of providing IT service of the bank. In line with prior works conducted by (Kaiser, Gallagher, Kaiser, & Simon, 2010) skills are critical factors to provide IT services because they enable IT departments to work effectively with other departments, internal users, and external customers and suppliers. To provide an effective and efficient IT service, the developing capability of the employee is essential.

From analysis results, we have also observed that ***insufficient personnel*** *are* a challenge on ITSM. This happened because the bank formulated a new five-year strategy (2019- 2023) which is a reason for money new division become opened and requires more workforce. Even if the bank has implemented a new placement for an existing employee, it is difficult to handle effectively huge IT works available at different divisions using the current resource. This depicted that lack of enough workforce affects the process of delivering and supporting IT services.

As indicated in the analysis result, the respondent stated that the ***lack of a self-service portal*** makes the process of providing services slow or inefficient. In the interview we had one of our respondents told us most of us not even thought to have and use self-service portals for our day-to-day activities. This indicates the value of having a Self Service portal is not well recognized by the banks. In line with this according (Shahid Iqbal, Ul Hassan, & Habibah, 2018) to Service providers introduced a technology-enabled mechanism (i.e. Self-Service Technologies (SSTs)) to

provide convenient services to their customers in attaining better productivity and satisfaction. To improve the IT services delivery process, it's necessary to implement a Self-service portal that contains user guides, instructions to resolve IT incidents, and answers to general questions about IT hardware and software (FAQs).

As indicated in the analysis result, the respondent stated that ***interoperability*** between different IT systems of the banks is also a challenge that hinders ITSM practices. In line with this according to (Kähkönen, Smolander, & Maglyas, 2016) integration scenarios between internal systems, and failing to provide its customers with the needed services.

Another challenges ***Poor Collaboration and Communication*** as presented in an analysis section, according to the interview result, almost all respondents mention there is a communication and collaboration gap that has an impact on the IT Service delivery and support process. In line with prior works conducted by(Park, Lee, & Truex, 2012)which states that the IT service delivery process involves an in-depth exchange of knowledge rather than the superficial exchange of task-related instructions, between service providers and clients. Because of the lack of specialized communication between service providers and clients, service quality is an issue.

As stated in the analysis results, the respondent mentioned is ***reporting*** which has an impact on IT service management, in the use of reporting data for decision-making and performance management. This is supported by prior works conducted by (Cater-steel, 2011) which stated that challenges in reporting are among other factors hindering the performance of ITSM or the effective application of IT services. In line with this prior research conducted by (Kajbaf, Madani, & Suzanger, 2011) stated that the reporting process helps managers to define clearly what they expect in each activity and monitoring KPI. Besides, different reporting tools exist to gather and analyze data and even analyze different aspects of a decision and suggest a choice.

4.4.3 Research Question3 (How to improve ITSM in BoA?)

The primary focus of the study is to answer the third question that is stated as "How to improve current ITSM practices in the context of BoA?". From the above discussion, we can understand that the current ITSM practices in BoA need improvement. Therefore, by considering current organizational practices and analysis results PDCA (**Plan-Do-Check-Act**) model suggested improving the current practices in BoA by adopting a four-stage cycle for service management, attributed to Edward Deming. Plan-Do-Check-Act is also called the Deming Cycle.

Plan – design or revise processes, services, and tools that support IT services.

Do – implement the plan and manage the processes.

Check – measure the processes and IT services, compare with objectives, and produce reports.

Act – plan and implement changes to improve the processes.

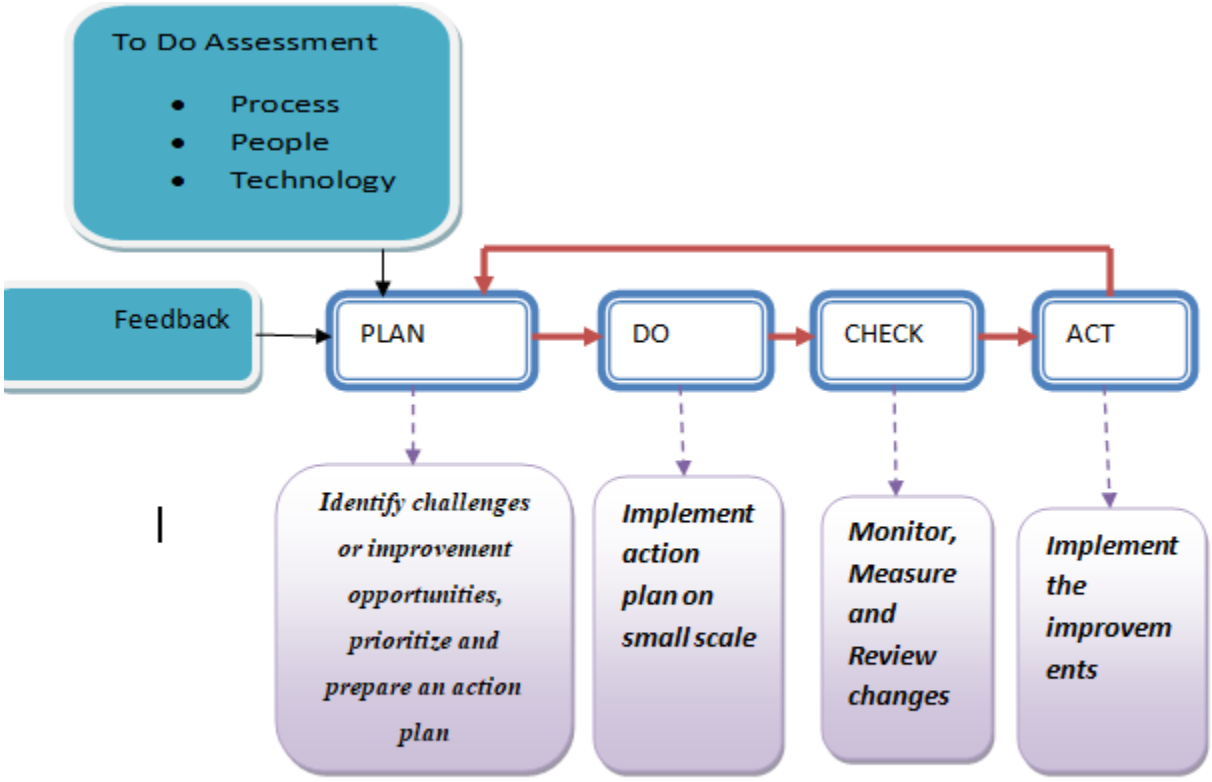

Figure 4.2 suggested IT Service Management improving Cycle Adopted from (OGC, 2011)

Assessment & Feedback

As shown in the analysis result the bank has been faced IT service management issues that categorized under people, processes, and technology. Therefore, we recommend BoA do the continuous assessment and accept feedback from stakeholders that helps them to identify the gaps continuously. The Bank can use assessment and feedback as source improvement opportunities to IT service management, which can be the input for the planning phase of the PDCA cycle.

Identify challenges or improvement opportunities, prioritize and prepare an action plan

At this stage challenges are presented, prioritized and an action plan is prepared to improve existing IT Service Management. As we can see from the analysis results of the interview and maturity level of ITSM, BoA faces different challenges, which need continuous improvement. To improve current Practices prioritization of the issues is mandatory based on their impact on business. Therefore we recommend the process or service selection matrix which is developed by (Shrestha, Cater-steel, Toleman, & Tan, 2014) the can assist BoA to select processes, tools, and tools for improvement, based on the following diagram.

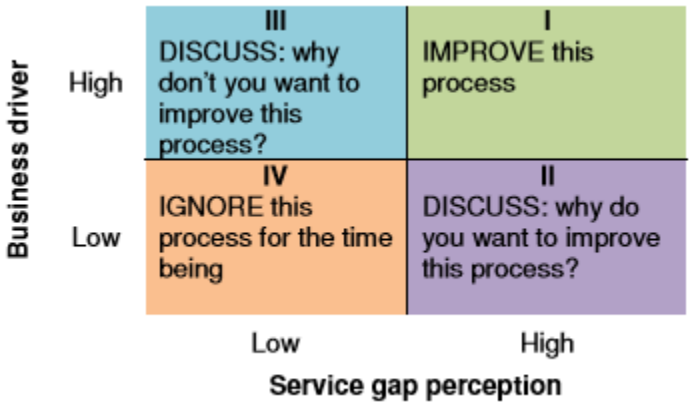

Figure 4.3 service selection matrix for improvement

In line with this, after challenge identification and prioritization, the next step is to plan action to be taken, in improving IT services based on the analysis results. Accordingly, the under-listed action activities are planned under each identified challenge.

Challenge	Lack of a good measurement hinders IT service management practices in BoA
Action plan	• Identify processes and services (choosing what to measure) • Communicate the stakeholder • Develop metrics or Service Level Agreement (determine how to measure) • Implement measurement system
Priority	High

Challenge	Documented Service procedure or guidelines
Action Plan	• Identify all the processes and Services. • Define the service or process boundaries • Emplace the system that enforces division to develop, update, and share service documents.
Priority	High
Challenge	change management
Action Plan	• To emplace the change management system or procedure that supports IT service changes. • Emplace the systems that monitor change made by all stakeholders.
Priority	Critical
Challenge	Skill gaps are also a challenge that hinders IT Service Management.
Action Plan	• To provide training that enhances the capacity of the employee. • To prepare a knowledge sharing and awareness creation platform that enables the employee to get the requisite knowledge.
Priority	Medium
Challenge	Agile Policy and procedure
Action Plan	• Review available policy documents • Develop agile policy and procedure • Emplace or implement agile policy and procedure • Maintain
priority	High
Challenge	Manpower/personnel
Action Plan	• Review and update the establishment number of Workers needed to handle a job under each division. • To employ additional employees that can retain competitive IT professionals in the organization.
Priority	Medium

Challenges	Interoperability between various IT systems of the banks is also a challenge that hinders ITSM practices.
Action Plan	• Identify those systems or services that need to be interoperable. • present challenges to interoperability that exists between identified systems or services. • emplace or develop interoperability solutions to solve the existing issue. • Implement Solution
Priority	Medium
Challenge	Collaboration and Communication gap has an impact to work with other division
Action Plan	• Emplace a communication and collaboration system that enhances communication and collaboration between employees of the banks. • Create awareness among employees about effective communication and collaboration benefit for the banks and the individual.
Priority	Low
Challenges	Lack of self-service portal
	• Emplace a self-service portal that enables the employee to support themself. • Enforce and monitor the use of the self-service portal to make service improvement more effective.
Priority	Medium
Challenge	Reporting also has an impact on IT service management.
Action plan	• Emplace reporting system that can provide the requisite information and supports the decision-making of the management.
Priority	Critical
Challenge	The business understanding gap has also an impact on IT service management
Action Plan	• To provide training that enhances the business knowledge of the employee. • To prepare a knowledge sharing and awareness creation platform that enables the employee to get the requisite knowledge.
Priority	Medium

Table 4.3 IT Service Management improvement action plan

Implement an action plan on a small scale

In this stage, a solution to identify challenges or improvement opportunities starts implemented. However, be on a small scale because we cannot know whether the improvement result is going to be successful or not. For example, the improvement opportunities identified in the planning phase start implemented. Among the suggested improvements the following points are expected to reduce the skill gap.

- To provide training that enhances the capacity of the employee.
- To prepare a knowledge sharing and awareness creation platform that enables the employee to get the requisite knowledge.

Monitor, measure, and review

In this Stage, measure how well the new improvements work you can benchmark it to the old level (before change) of the process or service activities. If the improvement made solves the existing challenges, go to the next phase for full implementation, if not it is better to review other possibilities or back to phase one and adjust the action planning. Until we have found the best potential solution. finally, if we have got we can move on to the ACT phase.

Implement the improvements

In this stage, the solution fully implemented or the old way of doing activities has been modified to enhance the services and the changed service or process becomes the baseline for the next PDCA cycle. Moreover, training for new ways of activities should have given and standardization of the process considered.

Chapter Five

5. Conclusion and Recommendation

This section presents the conclusion and recommendation based on findings drawn from the study. Besides, it also indicates future possible researches.

5.1 Conclusion

This study focused on IT Service Management practices in the case of Abyssinia Bank. In the current business environment, the practice of IT Service Management in an organization facilitates and enables the achievement of corporate objectives. To meet this objective, the performance of IT Service Management should be in a better position in achieving specified objectives. however, BoA has unhealthy IT service management practices and failed to give intended IT service.

Assuring that there are unhealthy IT service management practices in the bank of Abyssinia and no research conducted in identifying challenges. The researcher has been prepared a research question to identify those challenges that hinder IT service management practices. To answer the research question extensive literature review was made and a conceptual research model has been developed. Based on these conceptual model research questionnaires and interview question has been prepared, data has been collected and analyzed.

Generally, this study answers the research question raised at the beginning: To Improve current IT Service Management practices the current IT Service maturity level identified, challenges in IT service management presented and the IT Service Management improvement model (PDCA Cycle) suggested to the BoA.

Based on thematic data analysis results the following conclusion has drawn under three dimensions:

Regarding challenges related to the IT Service management process dimension, i.e. change management process, documented service procedure, lack of agile policy and procedure, and measurement issue has been identified from the analysis results. change management process is the factor that affects IT service Management practices in the context of BoA. Especially, changes like emergency and normal changes need an adequate and timely solution to improve IT service management effectively and efficiently. The other results indicate Lack of Service documentation also another challenge that hinders IT Service management practices because the team might be at

different levels of expertise and each activity has its way of handling and the logical flow of approaching. Lack of policy and procedure also another influential factor identified under this dimension. Therefore, the policy should be more agile to provide efficient services and compute in the market. Measurement is also another factor, unless the BoA defines metrics for the service they provided, it is too difficult to monitor and control the IT service process.

With the people dimension, IT service Management challenges like lack of skill, lack of Business Understanding, communication, and collaboration, an insufficient number of workers (manpower) has been identified. The technical skill influential factor, which affects IT service management in the BoA. As a result, the value gained from IT is affected due to the skill gap. For example, in the area of business intelligence. The other factor is Lack of Business Understanding is the factor that hinders IT service management practices in BoA. There is no common understanding even if on simply (common) business issues. Communication and collaboration levels under IT departments also not at the desired level. Therefore, this scenario affects the service management process under this dimension.

Moreover, with the Technology dimension challenges related to reporting, self-service, and interoperability are identified. As we observe from the analysis result lack of a Self-service system, also a reason for IT service management practice is not at the desired level. Usage of Reporting tools and data properly is also the other factor in the IT service management process that is found from this research result. As indicated, in the data analysis section, the majority of the respondent replied due to the low usage of the report they are unable to use the information they get at the desired level. Under this dimension, the interoperability of various systems is also an issue. The results show the BoA faces a system interoperability issue due to the existence of a different system with different system architecture.

In summary concerning process dimension, IT service procedure and process measurement i.e. IT service performance measurement system in the Bank of Abyssinia is a key finding underlining for unsatisfactory IT Service management practices. In addition, lack of interoperability between different systems i.e. the ability of different banking systems to readily connect and exchange data with one another, and ineffective communication results in unhealthy IT service management Practices in the bank.

So without minimizing the mentioned key findings, it's difficult for the BoA to get a competitive advantage in the market. So to exploit an organization's competitive advantage the BoA needs to improve the current practices through proper implementation of IT service management and continual service improvement.

5.2 Recommendation

5.2.1 Recommendation for practices

As we have understood from the study result, IT Service Management practices in the BoA are not at the desired level. The bank enforced to improve current ways of managing IT service to compute in the market. Therefore, to keep its momentum in the industry and get a return value from IT the researcher recommends the following practical recommendations in line with the findings.

- The service Measurement System should be implemented by the IT department: -
    - ✓ Branch users and first-line team.
    - ✓ First-line team and second-line team.
    - ✓ Second-line team and vendors.

In connection with this, another critical important attribute is the Performance Management System (**PMS**). It is critically important to integrate SLM with a Performance management system, which helps the bank to implement data-driven staff development or decision-making process. This scenario motivates both the employees and the division to deliver a better service.

- All higher Managements of Abyssinia Bank must be understand the impact of change management and implement a clear change management System. Due to today's changing demands, organizations need to be continuously changing their business to be competitive and survive in the market. Unless they implement change management, it is difficult to compute.
- The existing policy should be revised and designed in agile ways by IT department. Moreover, follow-up the proper implementation of them is required.

- The communication and collaboration system of the banks should be enforced for their usage. The BoA should have enforced the end-users to use outlook, collaboration tools, and bank portals to reduce unnecessary loads.
- Training in the areas of business and IT should be provided by learning and development departments. Both formal and informal training (on the job training by each division or branch) is good to enhance the skills of employees. This also helps the employee to understand both the business and the IT.
- IT Service Management improvement is a continual process, not a one-time duty. Therefore, we recommend BoA do the continuous assessment and use feedback from stakeholders that helps them to identify the challenges and improve the gaps continuously.
- To reduce the volume of call and service requests from the employee implementation of the Self-service portal should be considered to make the service improvement more effective and efficient.

5.2.2 Recommendation for Future Research

Suggestions for future research could be to:

- Future studies can consider the areas of system interoperability
- The study conducted using three-dimension based on a conceptual model. We recommend further research by considering other variables related to IT Service management like Organizational culture.
- This study lacks generalization. Therefore, we recommend further investigation into another sector.

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Appendix

Appendix A

Semi-structured Interview Outline

ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE

SCHOOL OF INFORMATION SCIENCE

First and foremost, I would like to extend my appreciation for your valuable time to participate in this academic study. I am confident that you will provide your honest and prompt response.

This interview is prepared to collect primary data for the thesis entitled "Towards improving IT Service Management practices in Bank of Abyssinia", which is being conducted to fulfill the requirement for the Degree of Master of Science in Information System at Addis Ababa University. The objective of this thesis is to improve IT Service Management practices in the context of Bank of Abyssinia.

Please, be rest assured that the information you provide here will be used only for academic purposes and is confidential. Any conclusion to be made will be in aggregate and summary format without explicitly or implicitly indicating the respondents.

Abraham GelayeDeneke
E-Mail: abraham.gelaye@gmail.com

Mobile: 0946607040

1. Could you please provide me some information regarding your professional experience and position?
2. In your opinion, is there a shared understanding of bank goals and objectives by your departments and within various units of the bank hierarchy in order to achieve better IT Service Management objectives?

   Purpose: To know how IT departments understand bank goals, collaborate and understand business objectives.

3. Please could you explain the **activities** that your departments undertake to effectively and efficiently Manage IT Service?

   Purpose: To understand or get highlight of the Service exist under each department which help me in the process of exploring challenges.

4. What kind of **tools or software** is you used to manage IT service? Please could you explain challenges you got regarding those mentioned tools.

   Purpose: To understand how IT service management is handled, especially in the area if incident management, change management, release management problem management from technology side, if there is any and what kind of systems are used to store and process the services and challenges they face by using those tools.

5. What are **employee's mistakes** related with IT Service management practices?

   Purpose: To explore people side challenges of IT service management issues exist in BoA?
6. Could you explain challenges related with **Process or activities** that affecting effectively and efficiently manage of IT Services?

   Purpose: To explore process side challenges and get information how IT service management process or activities managed? Especially in the area of incident management, change management, release management and problem management process if there is any.

7. What are the **challenges** surrounding activities of IT service management in your department?

   Purpose: To get more challenges related to IT service management practices.
8. Please could you explain the **activities** that your department undertake to effectively and efficiently IT Service Management.

   Purpose: To know existing efforts to improve the practices.

The following is the questionnaire used as an interview to assess selected five ITIL processes through three criteria (dimension). Parts one through three of this questionnaire assess the firm's current level of ITSM practices by measuring responses to items related to IT service management, as follows:

- Process
- Technology (Tools and Automation)
- People (Skills and Expertise).

For each of the questions in these sections, please **select *the one response that most closely represented your opinion*** of the effectiveness of their organization's IT service management process.

Part one: Process

1. Is the existing documentation in terms of completeness, usability, and good practices incorporated? How are improvements to policies, procedures, and standards applied to improve the efficiency of the ***Incident management*** process?
   A. ***The incident management*** process is not defined.
   B. ad hoc ***Incident management*** process activities exist.
   C. informal ***Incident management*** process exists or parts of the process activities repeatable.
   D. ***Incident management*** process formally defined or key polices/plans commonly established.
   E. robust ***Incident management*** process execution or process is operating effectively with little deviations.
   F. ***The incident management*** Process is executed and controlled according to an external good practice process.
2. Is the existing documentation in terms of completeness, usability, and good practices incorporated? How are improvements to policies, procedures, and standards applied to improve the efficiency of the ***Problem management*** process?
   A. ***The problem management*** process is not defined.
   B. ad hoc ***Problem management*** process activities exist.
   C. Informal ***Problem management*** process exists or parts of the process activities repeatable.
   D. ***Problem management*** process formally defined or key polices/plans commonly established.

E. Robust ***Problem management*** process execution or process is operating effectively with little deviations.

F. ***The problem management*** Process is executed and controlled according to an external good practice process.

3. Is the existing documentation in terms of completeness, usability, and good practices incorporated? How are improvements to policies, procedures, and standards applied to improve the efficiency of the ***Change management*** process?

    A. ***The change management*** process is not defined.

    B. ad hoc ***Change management*** process activities exist.

    C. informal ***Change management*** process exists or parts of the process activities repeatable.

    D. ***Change management*** process formally defined or key polices/plans commonly established.

    E. Robust ***Change management*** process execution or process is operating effectively with little deviations.

    F. ***Change management*** Process is executed and controlled according to an external good practice process.

4. Is the existing documentation in terms of completeness, usability, and good practices incorporated? How are improvements to policies, procedures, and standards applied to improve the efficiency of the **Configuration Management** process?

    A. **Configuration Management** process is not defined.

    B. ad hoc **Configuration Management** process activities exist.

    C. informal **Configuration Management** process exists or parts of the process activities repeatable.

    D. **Configuration Management** process formally defined or key polices/plans commonly established.

    E. robust **Configuration Management** process execution or process is operating effectively with little deviations.

    F. **Configuration Management** Process is executed and controlled according to an external good practice process.

5. Is the existing documentation in terms of completeness, usability, and good practices incorporated? How are improvements to policies, procedures, and standards applied to improve the efficiency of the ***Release management*** process?
    A. ***The release management*** process is not defined.
    B. ad hoc ***Release management*** process activities exist.
    C. informal ***Release management*** process exists or parts of the process activities repeatable.
    D. ***Release management*** process formally defined or key polices/plans commonly established.
    E. robust ***Release management*** process execution or process is operating effectively with little deviations.
    F. ***The release management*** Process is executed and controlled according to an external good practice process.

Part Two: Technology

6. To what level the ***incident management*** process automated? are tools available to support the ***incident management*** process and are those tools integrated to improve efficiency?
    A. No ***incident management*** tools or all activities executed manually
    B. only standard desktop tools used for specific purpose
    C. ***incident management*** tools individually managed or self-developed tools owned by individual used
    D. ***incident management*** tools centrally managed or tools used are coordinated within a defined, central plan.
    E. ***incident management*** tools usage is integrated into all key processes to automate and monitor the process.
    F. ***incident management*** Tools are fully integrated to automatically detect exceptions and proactively control the process.
7. To what level the ***problem management*** process automated? are tools available to support the ***problem management*** process and are those tools integrated to improve efficiency?
    A. No ***problem management*** tools or all activities executed manually
    B. only standard desktop tools used for specific purpose

C. ***problem management*** tools individually managed or self-developed tools owned by the individual used.
D. ***problem management*** tools centrally managed or tools used are coordinated within a defined, central plan.
E. ***problem management*** tools usage is integrated into all key processes to automate and monitor the process.
F. ***problem management*** Tools are fully integrated to automatically detect exceptions and proactively control the process.

8. To what level the ***change management*** process automated? are tools available to support the ***change management*** process and are those tools integrated to improve efficiency?
   A. No ***change management*** tools or all activities executed manually.
   B. only standard desktop tools used for specific purposes.
   C. ***change management*** tools individually managed or self-developed tools owned by individual users.
   D. ***change management*** tools centrally managed or tools used are coordinated within a defined, central plan.
   E. ***change management*** tools usage is integrated into all key processes to automate and monitor the process.
   F. ***change management*** Tools are fully integrated to automatically detect exceptions and proactively control the process.
9. To what level the ***Configuration management*** process automated? are tools available to support the ***configuration management*** process and are those tools integrated to improve efficiency?
   A. No ***configuration management*** tools or all activities executed manually
   B. only standard desktop tools used for specific purposes.
   C. ***configuration management*** tools individually managed or self-developed tools owned by individual users.
   D. ***configuration management*** tools centrally managed or tools used are coordinated within a defined, central plan.
   E. ***configuration management*** tools usage is integrated into all key processes to automate and monitor the process.

F. ***configuration management***tools are fully integrated to automatically detect exceptions and proactively control the process.

10. To what level the ***Release management*** process automated? are tools available to support the ***release management*** process and are those tools integrated to improve efficiency?
    A. No ***Release management*** tools or all activities executed manually
    B. only standard desktop tools used for the specific purpose
    C. ***Release management*** tools individually managed or self-developed tools owned by the individual used
    D. ***Release management*** tools centrally managed or tools used are coordinated within a defined, central plan.
    E. ***Release management*** tools usage is integrated into all key processes to automate and monitor the process.
    F. ***Release management*** tools are fully integrated to automatically detect exceptions and proactively control the process.

Part three: People

11. To what level skill requirements are defined and documented?
    A. required skills unknown
    B. People carrying out the activities have a little skill.
    C. People carrying out the activities have the skills and knowledge to perform it.
    D. Skills are assessed and validated against changing requirement.
    E. Skill metrics or equivalent are used to validate people's capability
    F. Continuous skill improvement implemented.
12. The following statements pertain to what level the role of people under your division defined and documented.

    A. People role not exist.
    B. People role are recognized, even if they are no formally defined .
    C. People role are formally defined, recognized and assigned.
    D. There is clear and documented definition of authority level for each role.
    E. Roles regular reviewed to validate continued effectiveness.

F. Roles are analyzed for potential improvement.

13. The following statements measure to what level Stakeholder involved and collaborated to improve the current practices.
    A. No stakeholder exists.
    B. No stakeholder feedback is gathered or sought.
    C. Performance is reported to at least for internal stakeholder
    D. Some stakeholder feedback is provided and major issues are responded to an ad hoc basis.
    E. Stakeholder regular reviews to validate continued effectiveness.
    F. Stakeholder feedback are retained and analyzed for trends and improvement potential.

14. To what extent management commitment exist to support IT services.

    A. No management commitment
    B. There is a little management commitment
    C. Some management commitment exists
    D. Management commitment is visible and evident
    E. reviewed by management to validate continued effectiveness
    F. All activities are subject to management control and governance

15. To what level training program are defined and documented?
    A. No training exists
    B. People performing the role receive little training beyond on the job learning.
    C. People performing the role receive basic job related training when they join, but little, if any, thereafter.
    D. People performing the role receive both initial and some ongoing training
    E. Refresher training and updates are given in advance of a procedure or activity changing
    F. Continuous training program improvement implemented

Appendix B

MATURITY	Int1	Int2	Int3	Int4	Int5	Int6	Int7	Int8	Tota
The level of incident management as a process	3	2	2	4	4	2	4	2	
The level of problem management as process	2	2	1	3	2	3	3	2	
The level change management as process	1	3	1	3	3	2	3	2	
The level configuration management as process	0	1	0	1	2	2	2	2	
The level release management as process	2	2	2	1	2	1	1	1	
PROCESS	8	10	6	12	13	10	13	9	2.025
incident management automated/supported by tools	2	2	2	3	3	2	3	2	
problem management automated/supported by tools	1	2	2	2	3	3	3	2	
change management automated/supported by tools	1	2	2	2	1	2	2	2	
configuration management automated/supported by to	1	0	1	1	2	2	1	1	
Release management automated/supported by tools	2	2	2	1	2	1	3	1	
TECHNOLOGY	7	8	9	9	11	10	12	8	1.85
skill requirements	3	3	3	2	2	3	3	3	
role defined and documented	3	2	3	3	3	3	2	2	
stakeholder involvement	1	1	1	2	2	1	1	2	
management commitment	3	4	4	4	3	2	4	4	
Training program defined and documented	3	3	2	2	2	2	2	3	
PEOPLE	13	13	13	13	12	11	12	14	2.525
TOTAL MATURITY	2.133								