

**ADDIS ABABA UNIVERSITY  
COLLEGE OF BUSINESS AND ECONOMICS  
SCHOOL OF COMMERCE**



**An Assessment on Causes and effects of schedule delay in ICT  
projects: A case of financial institutions in Ethiopia**

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Project work Submitted to Addis Ababa University, School of Commerce in  
Partial Fulfilment of the Requirements for Master of Arts in  
Project Management

May, 2022  
Addis Ababa, Ethiopia

**ADDIS ABABA UNIVERSITY  
COLLEGE OF BUSINESS AND ECONOMICS  
SCHOOL OF COMMERCE**



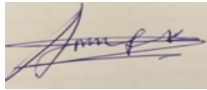
**An Assessment on Causes and effects of schedule delay in  
ICT projects: A case of financial institutions in Ethiopia,  
Addis Ababa, Ethiopia**

**BY**

**Yilikal Eshetu**

**A Research Project Submitted in the Partial Fulfilment of the  
Requirements for Master of Arts (MA) Degree in Project  
Management**

**Approved by Board of Examiners**

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## STATEMENT OF DECLARATION

I, Yilikal Eshetu, hereby declare that this research paper entitled “**An Assessment on Causes and effects of schedule delay in ICT projects: A case of financial institutions in Ethiopia**” is my original work. This research paper has not been submitted to this or any other school for a degree or master's program.

Yilikal Eshetu

Signature \_\_\_\_\_

Date \_\_\_\_\_

Addis Ababa, Ethiopia

## LETTER OF CERTIFICATION

I hereby declare that Yilikal Eshetu conducted the study presented in this project work entitled, "An Assessment on Causes and effects of schedule delay in ICT projects: A case of financial institutions in Ethiopia," as part of the partial fulfilment of the requirements for the award of a master's degree in Project Management. To the best of my knowledge, it is his original work, and it has never been presented as a partial fulfilment for any degree at this or any other university.

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Mengistu Bogale (PhD.)

Date

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## ABBREVIATIONS AND ACRONYMS

**ICT:** Information Communication Technology

**IT:** Information Technology

**PMI:** Project Management Institute

**ERP:** Enterprise resource planning

**PMBOK:** Project Management Body of Knowledge

**MS:** Microsoft

**RII:** Relative Importance Index

**SD:** Standard deviation

**USD:** United States Dollar

**LC:** Letter of credit

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## ABSTRACT

*The particular goals of this study is to discover the factors that leads to time overruns in ICT projects in financial institutions in Ethiopia, find out how time overruns affect ICT projects, and give recommendations for resolving recognized causes of delay. The study investigates the causes and consequences of project delays using a descriptive research approach. A quantitative research technique was employed to obtain quantitative data for the study. According to their relative significance index rankings; delay causes related to project scope management, project risk management, project communications management, project schedule management, project stakeholder management, project procurement management, and project resource management have a large contribution to the project's schedule overrun. The study's results also showed that the identified project delay causes from the standpoint of each delay factor that falls under each knowledge area are identified as significant factor that contributed to delay in ICT projects. From the study, the effects of delay facing ICT projects in financial institutions are schedule delay, underutilization of systems and resources, dispute between parties involved, cost overrun, total abandonment, arbitration and litigation. The findings revealed that, regardless of their level of influence, all of the delay causes identified in the literature review contributed to project delays. Based on the outcomes of this research, it is suggested that Organizations should capacitate their employees, revise their contract awarding mechanism, provide adequately the required resource, enhance decision making, involve all stakeholders sufficiently and implement risk management system. Additionally, monitoring and controlling process groups should have paid sufficient attention during the project time.*

**Keywords:** ICT, ICT projects in financial institutions, project delay and effects of delay.

# CHAPTER ONE

## 1.1 Background of the Study

Project Management Institute (2004) describes projects as a short-term effort to construct a one-of-a-kind product or service that necessitates resource management. Projects typically involve groups of people working together toward a single goal, with the aim of meeting those defined goals in a timely, cost-effective, and high-quality manner. A project, according to Westland (2006), is a unique effort to develop a set of deliverables within clearly defined time, cost, and quality constraints.

There are a multitude of project management models and technologies available in today's industrial world, all of which have had varying degrees of achievement in their respective industries. Despite the numerous options, cost overruns and timetable delays are not unusual (Lutchman, 2011).

Delay is defined as an act or occurrence that extends the time needed to complete contracted duties. It frequently manifests itself as extra work days or a delayed start to an activity (Sweis et al., 2007). According to Odeh and Battaineh (2002) massive delays occur in projects, causing them to overshoot their initial time and expense predictions, resulting in lengthy delays that serve as a basis for claims and disputes.

Failure to finish projects on time and on budget remains a persistent global issue. Projects are not always successful, and they can be delayed at times. Several projects have greatly exceeded their original schedule. Delays in technology projects are not uncommon. Because the IT sector is a complicated one, complex projects must be managed with a high level of efficiency and enthusiasm. Due to a variety of hard settings and issues, many projects are prone to delays. Technology projects are becoming larger, involving more elements of the business, and creating a danger to the company if something goes wrong as IT systems become a more significant competitive aspect in many industries.

As per Flyvbjerg and Budzier (2011) one out of every six projects studied was a black swan, with an average cost overrun of 200 % and a schedule overrun of over 70 %. When project deadlines are not met, they are termed delayed. The inability to execute projects on schedule and within budget is still a serious problem worldwide, and it is getting worse (Ahmed et al., 2002).

The percentage time and cost overruns that affected the projects were revealed in an interview conducted with specialists from Helios Towers/Tigo Ghana. The rate of time and cost overruns on these projects was scary. On average, 35 % to 55 % of projects went time overrun by 82 %, while 25 % to 35 % went over budget by 40 % (Danso and Antwi, 2012). The New York City Automated Payroll System was introduced in 1999 and ended in 2011. The budget and first estimate for the project was \$66 million. When the project was declared complete, the total cost was anticipated to be \$360 million, or 5.5 times the initial budget. Around this period, the project was one of many huge, troubled undertakings in the New York City government. Another Project was City Time, which had a five-year budget of \$63 million but ended up costing \$700 million over ten years. In response to the difficulties encountered by these projects, the Council established a law requiring any IT project that exceeds its budget by more than 10% to report to the City Council (The Standish Group, 2013).

In the banking business, information and communication technology (ICT) has ushered in a full paradigm shift in terms of bank performance and client service delivery. Banks have invested substantially in ICT and widely adopted ICT networks for offering a wide range of value added products and services in order to keep up with global development, improve the quality of client service, and lower transaction costs. The advancement of ICT has a considerable impact on the development of more flexible and user-friendly banking services (Aliyu and Tasmin, 2012).

In the banking industry, ICTs have been touted for their ability to increase customer base, lower transaction costs, improve quality and timeliness of response, expand advertising and branding opportunities, facilitate self-service and service customization, and improve customer communication and relationship management (Garau, 2002 as cited by Adewoye, 2013). In today's competitive environment, the use of information technology (IT) is unavoidable. By collecting, processing, transferring, retrieving, storing and disseminate information, banks in particular use ICT to improve the efficiency and usefulness of services supplied to consumers. Information and communication technologies (ICTs) have revolutionized corporate transactions; today's multibillion-dollar transactions can be completed in minutes. Asare and Sakoe (2015) stated that thanks to electronic banking, banking has become considerably more simple and convenient. Customers can now execute financial transactions without having to drive significant distances to a bank.

According to Alu (2013), the importance of project implementation in the banking industry, mainly in terms of information technology, has benefited the sector's progress and development significantly. ICT plays a crucial role in the functioning of banks and in satisfying the growing demands of customers for most enterprises in today's increasingly competitive world. It has revolutionized the way of doing business through the introduction of IT related products in internet banking.

The global annual spending on software projects was \$750 billion in 2013. The United States was responsible for almost 40% of this total, or \$300 billion. Europe spent \$190 billion, up roughly 27%. The Asian market accounted for \$110 billion, or 15% of the total. The remaining \$150 billion, or 20%, was spent by the rest of the world. Projects that were cancelled or failed accounted for 16% of the total, or \$120 billion. The portion from the United States was slightly higher, while the portion from Europe was slightly lower. Projects that were late, cost more, or were off track accounted for 48 % of the total, or \$360 billion. Overruns can happen for a variety of causes, but according to The Standish Group, the cost of unanticipated global overruns in 2013 was over \$80 billion, putting the total cost of project software failure at more than \$200 billion (The Standish Group, 2014).

## **1.2 Statement of the problem**

According to PMI (2004) due to the existing dependency between essential processes, the project's delay has its own effect on the project's implementation, primarily in terms of cost, quality, and scope. This also implies that the project's delay has an effect on the whole Project management process. Projects must be executed on schedule, on budget, and to the acceptable standard of quality. Unfortunately, due to different reasons directly and/or indirectly related to it, many projects take longer to finish, cost more than planned as a result, and some projects are terminated.

Depending on the type of business they work in, the challenges that different organizations encounter in completing projects might be enormous. The difficulties could be caused by human, financial, or other sources. Various experts in different countries have conducted extensive research on project success. Project failure can be caused by a number of factors, according to researchers. Schedule overruns have a significant effect on the success of a project as well as an organization's general stability. Delays and cost overruns, according to Singh (2009), impair the economy's competitiveness and the efficiency of its available

economic resources. Various issues have been discovered by the above-mentioned experts, as well as others. As a result, the factors that jeopardize the success of a project differ from country to country and sector to sector. Many academics, On the contrary, believe that schedule overruns are one of the leading causes of project failure.

Project organizations and project managers frequently suffer with issues that can lead to project delays, budget overruns, and stakeholder discontent with project management methods (Pinto, 2014). IT projects, too, cannot be exempt from time and cost overruns. As a result, numerous IT projects launched by various firms have failed to be finalized on time due to various issues.

The majority of completed IT projects took significantly longer time than planned to complete and required more financing beyond what was agreed upon at the outset of the project. This challenge, in turn, is producing issues with project funding, timely use of the system institutions, and relationships among stakeholders involved in the process. This necessitates careful planning of time as well as their effective implementation. This study will look into the primary causes of schedule delays in IT Projects of financial institutions. As per Reid (1999) Major cost overruns are caused by inadequate planning and cost estimating, insufficient control mechanisms, poor management, and/or poor contractor performance. According to The Standish Group's (1995) analysis, a total of 31.1 % of projects will be cancelled before they are completed. Furthermore, according to the research, 52.7 % of projects will spend 189 % of their original projections. On the other hand, the average success rate for software projects completed on time and within budget is only 16.2%. At larger organizations, the situation is far worse, with only 9% of projects completed on time and under budget. Even when these projects are completed, many of them fall short of the original requirements. Only about 42% of the features and functionality originally requested are implemented in big American firms' projects.

There are insufficient researches in this area in Ethiopia, despite the fact that many researches have been conducted in other sectors such as construction. Ample data suggests that many ICT projects are started but never completed within the time allotted. The elements must be analysed and identified in order to find a solution to these burning issues.

The major goal of this research is to determine the causes and effects of time overruns in ICT projects in the context of financial institutions, as well as possible recommendation to the problem. This study will also try to come up with a conceptual framework for identifying the factors that cause time overruns.

### **1.3 Research questions**

This research attempts to answer the following three questions;

- What are the most significant causes of schedule delay in ICT projects of financial Institutions?
- What are the effects of schedule delay in ICT projects of financial Institutions?

### **1.4 Objective**

#### **1.4.1 General objective**

The primary goal of this research is to determine the causes and effects of schedule delay in ICT projects in financial institutions. Therefore, based on the findings of the study, a significant and feasible recommendation is reached.

#### **1.4.2 Specific objectives**

- To identify and assess the main causes for schedule delay.
- To identify and assess the main effects for schedule delay.

### **1.5 Scope of the study**

The scope of research is limited to ICT projects of financial institutions in Addis Ababa. The focus of the research is to analyse the causes and effects of schedule delays from several perspectives. Finally, mitigation measures to alleviate such issues will be recommended. The findings, conclusions and recommendations are only limited to ICT projects in the area of the study.

### **1.6 Limitation of the study**

The following limitations were discovered during the study proposal preparation:

- The sample size is relatively small. Because there was a time limit and resource constraints, only a limited number of personal surveyed.
- There is a scarcity of study on ICT projects delay in general, particularly in Africa, especially in Ethiopia. Companies and the people involved are more likely to discuss

about project success and failure, whereas the reasons for project delay are either ignored or discussed a little.

- The study was limited by the data that participating personnel, in various financial institution, were agreed to provide. In addition due to a lack of time and resources the research will be limited to respondents from limited financial organization; as a result, the limitations of generality become clear. Consequently, the conclusion of this article is limited to a few banks, insurance companies, and microfinance institutions, and cannot be applied to all other financial institutions in Ethiopia.

### **1.7 Significance of the study**

This research will play an important role in determining the causes and effects of schedule delays in ICT projects in financial institutions. Time, cost and quality have proven to be the main measures of project success. Since time is one of the pillars of project management and project success, identifying schedule delay causes and their effects will have a huge effect on minimizing delay problems and will help to make the project a success. And this will have a big effect on the growth of information technology projects in the country's financial institutions, as well as other industries. The results of the study will further add value by proposing ways and inputs of mitigation measures, and may also be useful for researchers who need the foundation for further research in this field.

### **1.8 Organization of the study**

The paper is organized in five chapters. Chapter one incorporates introduction, which includes background of the study, problem statement, research objective, research questions, significance of the study and the scope and limitations of the study. The next one, which is the second chapter, discusses on review of literatures on the subject area. The third chapter presents methodologies and analysis used in the study. It incorporates the research design, source of data, target population, sample size, sampling technique, data collection techniques, and data analysis. The fourth chapter contains result, analysis and interpretation of the data gathered. Chapter five gives summary of major findings, conclusions of the study and suggestions of an assessment.

## CHAPTER TWO

### LITERATURE REVIEW

#### **1.1 Definition of terms**

##### **1.1.1 Information and communication technology (ICT)**

ICT refers to the function of unified communications and the integration of telecommunications and computers, as well as the enterprise software, storage, middleware, and audio/Video, in enabling users to access resources, save, send, and operate information (Wikipedia, 2022). Through increased productivity, competitiveness, growth, wealth creation, poverty reduction, and the rise of a knowledge-based economy, ICT offers major transformational opportunities (Nawi, Rahman and Ibrahim, 2011).

##### **1.1.2 Information systems projects implementation in financial institutions**

Increased awareness of the importance and implementation of technology in banking has resulted from increased rivalry and rising expectations, prompting banks to invest in the most cutting-edge technologies in order to meet the threat of competition and keep their customer base (Prema, 2010 as cited by Ebisa, 2020). As discussed in Standish Group (2013) managing successful IT projects has become a critical aspect in the banking industry's success, and project management investment is critical to that success. Many firms, on the other hand, continue to struggle with the majority of their IT projects. Too many IT projects fail to finish on time, on budget, and within plan, resulting in cost overruns and lost business opportunities. IT projects in banking, government, finance, telecommunications, and manufacturing had the lowest success percentages and were the most hardest to execute (The Standish Group, 2016).

##### **1.1.3 Project**

A project's purpose is to implement business change that will result in positive change in a company. To meet the specific requirements of an organization, a project is allocated a budget for its financial expenditures, where deliverables must be generated within a clearly defined start and finish date. Every project undertaken is distinct from the previous one because they do not involve the same processes. Each endeavour produces a one-of-a-kind product, service, or outcome. "Project is a temporary endeavour undertaken to create a unique product, service, or result. The temporary nature of projects indicates a beginning and an end

to the project work or a phase of the project work. Projects can stand alone or be part of a program or portfolio” (PMI, 2021). The temporary nature of the project indicates a definite beginning and end. Temporary does not necessarily mean short duration. When the project's objectives are met, or when the project is terminated due to inability to meet its objectives, or when the project is no longer required, the project comes to an end. As stated by Furton (2003) scope, time and money are the three main cornerstones of any project, a minor change in any one of them could jeopardize the project's stability. The temporary nature of the project indicates a definite beginning and end.

#### **1.1.4 Project Management**

The application of information, skills, tools, knowledge, techniques and procedures to project activities in order to achieve project requirements is known as project management (PMI, 2008). Project management's major goal is to guarantee that projects are finished on budget, on time, and to the required quality to meet project objectives. This is carried out by applying and integrating project management processes of initiation, planning, executing, monitoring and controlling and closing (PMI, 2013).

#### **1.1.5 ICT Project Management**

Overseeing ICT projects are very challenging which require proper management until the closure of the project. ICT projects are frequently seen as just a group of activities that require nothing but software, hardware, network devices, and different applications with the ultimate goal of introducing technological changes (Schwable, 2014). IT projects underpin every industry and business activity imaginable, thus IT project management necessitates not only technical expertise but also a thorough understanding of the customers' industry (Schwalbe, 2010).

The development and installation of a new software product is often the result of ICT project, however not every project is a pure development project. Many projects are hybrids, which means they are made up of multiple separate sub-projects that must all be managed separately (Dekkers & Forselius, 2007). According Cadle and Yeates (2008) Software development, package implementation, system enhancement, consultancy and business analysis tasks, systems migration, infrastructure implementation, outsourcing, disaster recovery, and smaller IT projects are the nine basic types of IT projects.

### **1.1.6 Project Management Challenges**

The most typical challenge that many projects in various industries face is project cost and schedule overrun. Delays and cost overruns impair the efficiency of accessible financial assets, restrain the development potential and diminish the competitiveness of the economy. “In the turbulent computer industry for instance, the danger of delaying the market entry of software can be tragically real to firms in the rat race. Therefore, the necessity to complete projects as quickly as possible within technological, financial, and human resource constraints is becoming increasingly evident today” (Sohmen, 2002).

### **1.1.7 Project failure and success**

Smith (2002) created his own definition for IT project failure and divided it into two categories, namely; Challenged and cancelled projects. A project that has been designated as challenged, has been completed and is operational, but it was completed over budget, schedule overrun, or with less functionality than expected. If a project is cancelled at any stage during the project life cycle, the cancelled project is considered a failure. Budzier and Flyvbjerg (2011) stated that numerous software projects are overrun budgeted, failed to meet the deadline and unable to deliver the required features and functionality.

Success is described as meeting internal or external customer expectations by completing work within time, budget and quality constraints. According to PMI (2010) top firms began to use project management to improve project outcomes and executives in the organizations have recognized that prioritizing project management methodologies and tactics decreased risks, lowered costs, and increased success rates.

Magutu et. al. (2010) stated that the primary causes of information system implementation challenges are process, people management, communication, corruption, structure, procurement, technical and system tuning. As a result of those issues, the project could fail.

The continuance of high failure rates shows that IT projects are more complex and difficult to successfully complete than we often think. According to Biggs (2000) approximately 70% of IT projects fail.

### **1.1.8 Project Time management**

Aside from cost and quality, time is an important consideration throughout the project management life cycle and can be regarded as one of the most essential parameters of a

project and the driving force behind project success. As a result, on-time completion of projects is a sign of efficiency and project success.

The length of time it takes to finish a project is known as project time. To accomplish a project on time, it is vital to manage it well. Time is an intangible asset that is quite finite, a project's time availability is defined as the amount of time required to complete a task (Anuar & Kiat, 2014).

The term "project time overrun" refers to a project's completion time being longer than expected. As per Turner (1993) the most crucial factor in determining whether a project succeeds or fails is time. Projects benefit from preventing or eliminating schedule growth because it saves money that may be put to better use somewhere (Majerowicz & Shinn, 2016).

### **1.1.9 Project Delay**

When the actual project length exceeds the originally intended and agreed-upon completion period, this is referred to as schedule overrun or slippage. Any deviation from the original plan will stymie the project and prevent the client from achieving their goal. Odeh and Battaineh, (2002) indicated that projects experienced significant delays beyond initial time and expense prediction which in turn result in lengthy delays that serve as a basis for claims and disputes.

The vast majority of ERP project deployments take longer than planned. According to the research of 1,300 implementations around the world revealed that 9 out of 10 projects take longer than expected (Panorama Consulting Group, 2009).

According to a study conducted in Ghana, telecom tower construction projects completed between 1992 and 2011 had up to 82 % time overruns and a 50 % rise in cost (Danso & Antwi, 2012).

### **1.2 Cause of Project Delay**

Delays can occur for a variety of causes, which vary from project to project and unique to each project. According to the study results by Panorama consulting group (2018), 79 % of respondents said their ERP system implementation projects exceeded their initial timetables.

Major sources of causes of delay are unrealistic project timeline, expanded project scope, design change, poor estimation, over-ambitious estimates, resource constraints, inadequate procurement, expertise related problems, vendors did not deliver on a timely manner, Ineffective communication, lack of senior management support, lack of risk management systems and slow decision making (Sweis, 2015; Goff, 2007; Kroenke, 2010; Larson & Larson, 2009; Molner, 2007; Nasir and Sahibuddin, 2011; Thomas et al., 2007; Hallows, 2005; Kimberling, 2020; Majerowicz and Shinn, 2016; The Standish Group, 2012; Habibi, Barzinpour and Sadjadi, 2018; Alemayehu, 2015; Eja and Ramegowda, 2019; Nawi, Rahman and Ibrahim, 2011; Pecherskayaa et al., 2016; Kafile and Fore , 2018; Hussain et. al., 2018; Roberts and Barar, 1992; Kimberling, 2020; Discenza & Forman, 2007; Majerowicz & Shinn, 2016).

Many issues have already been cited as contributing factors to IT project schedule overruns. These causes have been discovered and stated in the literature by many scholars. According to the study, the following are the most common types of variables that contribute to project schedule overruns.

### **1.2.1 Unrealistic Project timeline**

Unrealistic Project timeline is simply a recipe for disaster. Estimating the amount of time it will take to complete a task in a project is a challenging endeavour that only a few people are capable of. Personnel will be strained if the project timetable is underestimated and the timeframe is set too short in comparison to the amount of work necessary. Underestimating the task's completion time was a typical cause of failure, putting more strain on the team to meet the deadline (Sweis, 2015). Due to unrealistically tight timelines, projects take longer to complete than desired, 42 % greater costs, lower quality, and longer time to benefit realization and team member dissatisfaction (Boehm, 2000 cited by Goff, 2007).

### **1.2.2 Poor scope definition/Expanded project scope**

The work that must be completed in order to fulfil the project deliverables is referred to as the project scope. A project's scope is also determined by the amount of effort required to meet the project's objectives. Many projects fail to gain significant success due to the absence of a clear project definition.

When the scope of a project changes throughout execution, the original project plan must be evaluated and changed, with a focus on budget, quality, and time. As a result, there are delays and more resources are needed than originally anticipated. According to Kroenke (2010) the project team is aiming at a shifting target due to evolving needs. Controlling the scope of a project becomes difficult when requirements keep changing.

A lack of clarity in the project's scope and requirements will allow scope creep to occur, resulting in complex adjustments that are outside of the project's original intentions and creating project conflicts. Change is unavoidable in projects, which means scope creep is inevitable. Maybe that is why it is so difficult to keep scope creep under control (Larson & Larson, 2009).

It is critical to understand that if the early steps of creating a detailed scope description and task breakdown structure are done incorrectly, any attempt to accurately estimate the time of a project is fruitless exercise. Poor scope definition results in the creation of projects with no defined direction, features and goals. According to Larson & Larson (2009), when working on unapproved product features, a project team commits time to unauthorized changes. In most cases, the work to incorporate these revisions must be completed within the original schedule and budget estimates, leaving less time for the scope's authorized features. That could imply that approved features aren't implemented, and the end result isn't what was expected. Or it could mean there will be time and expense overruns in completing the scope's authorized portions.

### **1.2.3 Design Change/Specification changes**

The most common cause of a delay is change. If no adjustments are made to projects, they will be completed on time since there will be few or no interruptions. Every implementer prefers to work on projects when the designs are complete and there are no revisions. In practice, changes are specific to almost any project of practical size, as projects are rarely started after all designs have been completed and approved. It makes initial cost estimates almost meaningless and is often the main cause of overruns. "Changed work complicates a project, invites delays and increases the project cost—all things that make owners unhappy" (Molner, 2007). As per Sweis (2015) changes made late in the project can and will derail the team's plans for completing the project. As the team tries to impress the client while meeting the deadline, these changes will put them in a panic.

#### **1.2.4 Inadequate planning/ Poor Estimation**

Due to deadline pressure or a business strategy to win a tender, arbitrary and unreasonable estimation can contribute to project failure (Nasir & Sahibuddin, 2011). To ensure the proper execution of activities, it is critical that any project begin with thorough planning. If planning is carried out during the bidding process, it will aid in cost reduction, ensure realistic timetables, and worker productivity. According to Thomas et al (2007), “Planning is an essential function of project management”. Surely, planning is a crucial component of any project, and success requires a comprehensive plan. Projects that begin without a solid plan and understanding of the constraints involved are likely to fail. As described by Hallows (2005) most people are fairly accurate when estimating previous activity. Estimates for code, documentation, training, and even analysis are usually fairly accurate. The activities that are new or that vary significantly from project to project are where estimations fall apart. “If your estimates are low, your project will overrun its schedule and budget, and you and your team will become frustrated in trying to meet an impossible set of targets” (Hallows, 2005).

#### **1.2.5 Over-ambitious estimates/Incorrect task assessment**

Over ambition is a great desire to complete a large endeavour in order to get fame, wealth, or power as a result of exceeding goals. One of project management's five fatal sins is over ambition. Ambition has no negative connotations. On the contrary, the problem is uncontrolled ambition. The objective is to keep ambition under control in order to accomplish a desirable goal (The Standish Group, 2012).

Incorrect task assessment can lead to an erroneous or too optimistic estimate, which can either ruin the project or make it extremely expensive and unprofitable for the owner. A success-oriented timetable implies that everything must go well and that the activity will be completed as planned. Not a very realistic outcome for the vast majority of works, given the uncertainty associated with duration estimates (Majerowicz & Shinn, 2016). Estimation accuracy is critical for any project, especially in the early phases. These figures would allow the owner to make the critical decision of whether or not to proceed with the project. According to Kimberling (2020), overly optimistic deployment timetables and assumptions from suppliers and ERP systems integrators don't help matters. Perfect world situations may appear conceivable, unless understanding the fact that the world isn't flawless.

### **1.2.6 Resource Constraints**

People, equipment, software, hardware and any other components required to run a project are referred to as resources. Many project schedules are crafted without taking into account the availability of essential resources, resulting in timelines that are impossible to meet. According to Habibi, Barzinpour and Sadjadi (2018), “one of the major limitations of project scheduling is resource constraints, which is considered as a standard problem for project scheduling”. Shortage of people (skilled, semi-skilled, and unskilled labour) recognized as a contributing factor to delays (Sweis et al., 2007 cited by Alemayehu, 2015).

Material related concerns are one of the most typical causes of schedule overruns. Similarly, earlier project assessments have indicated that insufficient supplies and delays in the supply of materials required to finish projects caused project delays. As stated by Eja and Ramegowda (2019) project failure has been linked to a lack of or insufficiency of resources. Human resource is one of these resources. Delays and cost overruns are frequently caused by insufficient labour during implementation. The material resource is another resource mentioned in the literature that frequently leads to project failure. One of the most common reasons of delays is material-related issues.

### **1.2.7 Inappropriate/ inadequate procurement**

Since the contractor is in charge of the majority of the project, it is important to remember that the procurement process and contract management are the key to success. Contracts thus play an important role in the Projects' implementation. A contract permits legal papers to be integrated into project execution so that each party is conscious of its responsibilities and performs in accordance with the contract.

Cost overruns and delays are frequently caused by poor procurement and a defective contractual management system. If the initial contract does not fully explain every significant part of the project work, it may result in lengthy negotiations and arbitration as a result of work modification. No doubt that there will almost certainly be a project delay and cost overrun. Equally, vague contract with unclear wording might lead to a disagreement, resulting in project delays and cost overruns. As per Nawi, Rahman and Ibrahim (2011) issue that is frequently arises is when one or both parties fail to adhere to the contract during the project due to insufficient resource or contract management or change control mechanisms.

” Focus on low bid price also increase the risk for cost and schedule growth due to several change orders ” (Assaf and Al-Hejji, 2006, Wardani et al., 2006 as cited by Eriksson and Westeberg, n.d.) . Because contractors typically bid low to secure the work and then look for "extras" to make a profit, placing a high value on the lowest bid price increases the danger.

### **1.2.8 Expertise related problems**

The fast changing information technology environment presents a number of technological challenges to personnel in organizations. Despite the growing demand for information technology employees, there is still a shortage of skilled labour for a range of occupations in the industry. According to the study's findings, respondents believe that well experienced and highly skilled project members are a vital necessity for improving enterprise system deployment efficiency. The availability of sufficient human resources and knowledge to implement a project was the most critical aspect (Pecherskayaa et al., 2016).

The importance of education is a popular topic in the scholarly literature. Organizations should invest in certified and experienced technology people in order to succeed in the execution of IT Projects. According to Pecherskayaa et al. (2016), “Insufficient training causes users’ misunderstanding of the changes in the company’s business processes, which a new system brings. It is one of the main reasons for failures in ERP projects.”

Smart, well-trained employees are required for successful projects. A competent team is, expectedly, one of the major project success elements identified in Standish Group's CHAOS research. Unskilled employees were involved in the most challenging 60 % and failed 23 % projects (The Standish Group, 2015).

### **1.2.9 Vendors' late deliveries and contractors/subcontractors with insufficient experience**

Late deliveries from vendors are one of the most typical reasons of delays (Kafle and Fore, 2018). Contracts awarded largely on the basis of cost are likely to be delayed because subcontractors have not been thoroughly evaluated. Subcontractors who quote low-cost or just miss out to include major requirements will fail to perform, causing the project to be delayed. According to Alemayehu (2015) contractors failed to thoroughly examine projects prior to signing an agreement, which sadly leads to errors, inaccuracy, and recklessness during project execution, resulting in time and expense overruns when these errors are

attempted to be rectified later. In addition, delays in project execution are caused by the contractor's inefficient planning, lack of demonstrated experience, limited capital, and a lack of understanding of project timetables.

In addition, lack of demonstrated experience, the contractor's inadequate planning, limited fund, and lack of understanding of project deadlines cause delays in project implementation.

Indeed, if the project is delayed and the expected profits are delayed, the vendor may wind up losing more money. Furthermore, the owner puts the project's quality and reputation at risk by deploying contractors or subcontractors without first examining their credentials and performance. Delays are aggravated by a contractor's lack of experience (Abdalla et al., 2002 cited by Alemayehu, 2015).

#### **1.2.10 Ineffective communication**

Poor communication throughout the planning and execution of projects is a recipe for disaster (Eja and Ramegowda, 2019). Mostly project managers' time is spent communicating with their team members and all the stakeholders in the project. Communication is one of the most crucial variables in project success or failure, hence effective communication within the project team is essential. Otherwise, the team will not be able to work as a cohesive unit. As a result of arguments and confrontations, everyone is traveling in the opposite direction. According study by Eja and Ramegowda (2019) miscommunication is a risk to project success. On the other hand, effective communication is the glue that holds a project team together while it works toward its goals. Poor communication has also been connected to delays in the implementation of projects in Nigeria, which leads to project abandonment or failure entirely.

One of the main causes of project shareholder disagreements is a lack of communication. Poor communication has been related to a negative impact on critical parts of a project's success, such as timeliness, budget, and shareholder agreement. Reworks are frequently performed during the project lifecycle as a result of poor communication, resulting in schedule and expense overruns. Poor communication could lead to the project's failure in the long run (Hussain et. al., 2018).

### **1.2.11 Lack of senior management support**

Roberts and Barar (1992) highlighted the necessity of senior management assistance, particularly in resolving disagreements that arise throughout the process and managing the project to ensure that it remains on track. Senior management support is required to deal effectively with suitable resource commitment and interface groups. Furthermore, when the backing and commitment of top management is uncertain, it causes an uneasy sense among team members, resulting in low levels of project commitment and interest.

According to The Standish Group (2016), depending on their skills project sponsor can make or break any project, irrespective of its size. The project executive sponsor is the most important individual involved in the project, and he or she bears exclusive responsibility for its success or failure. The project sponsor's abilities have been shown in the CHAOS database to be critical to project improvement and success on several occasions. The bigger and more complicated the project, the more an executive sponsor's skills can determine whether it succeeds or fails. A highly skilled project sponsor, for example, was involved in more than half successful very large and complex projects, according to the database. On the flip side, an average to inexperienced project sponsor was found in over 60% of failed very big and complex complicated projects.

### **1.2.12 Lack of risk management systems**

Risk management is a complex subject since there are various risk levels that must all be recognized and addressed in order to establish a risk management strategy that is fruitful. The Standish Group (2010), states that a risk is a threat to a project's success, whether as a physical, estimation, financial, or political one. In other words, it is the likelihood of an unfavourable outcome. When assessing risks, types of incidents should be examined first. Second, likelihood of something is happening.

It is possible that projects will fail to do proper risk assessments. In fact, hazards may be disregarded, undervalued in terms of probability or consequence, or even neglected entirely. If these risks arise, projects may not be completely equipped to recover from their effects, particularly if the risks emerges at the of the project's life cycle. Another major subject is the occurrence of actual challenges and their impact on project success. When technical or programmatic issues arise, such as parts shortages, test failures, or resource shortages,

performance inefficiencies, rework, or troubleshooting emerge, delaying the schedule and increasing costs (Majerowicz & Shinn, 2016).

### **1.2.13 Slow decision making**

Because decisions are frequently the source of project delays, it is critical to know who will be making them, how they will be made, and how they will affect the overall implementation timeframe. According to Kimberling (2020), “slow decision making will slow down your project as well”.

Decision-making is the single most significant cause of project cost and time overruns. For every thousand dollars spent on a project, 1.5 decisions are made. Reduced decision-making latency improves project success and reduces overruns (The Standish Group, 2011).

According to Standish Group (2012) CHAOS MANIFESTO study latency between decisions is a primary factor to project delays and failures. The amount of decisions that make up a project can be overwhelming; the time it takes from the moment an issue arises until a decision is taken is the most challenging. If the average issue decision latency is one hour, a \$1 million project will take six months to complete (1,500 decisions = 1,500 hours) for example. If the project team can cut the delay time in half, the project will only take three months longer (1,500 decisions = 750 hours).

### **1.2.14 Lack of user involvement and inputs**

This is a regular problem in huge projects, and it leads to a lot of hostility between the firm and the user community. “Projects are less likely to fail if there are informed customers giving meaningful input during every phase of requirements elicitation, product description and implementation” (Discenza & Forman, 2007). Clients may perceive that something was imposed on them by developers who are primarily interested in putting their own ideas to the test (Sweis, 2015). In almost all of the projects, inability to meet the user's expectations was a common issue. According to the research, the vendor's failure to encourage user participation in the project is to blame (Nawi, Rahman & Ibrahim, 2011).

## **1.3 Effects of project Delay**

When the effects of project failure are considered, they are deemed to be damaging. Failure is characterized not just as the abandoning of a project, but also as the failure of a project to meet its objectives. The most common effects of delays include schedule delays, cost

overruns, arbitration, contract cancellation, and litigation (Gebrehiwet & Luo., 2017). It is critical to recognize that project delays can have a variety of consequences, most of which are undesired. The most common effects of a delayed project are cost and time overruns. The inflated cost might sometimes be the reason to decide to abandon the project. In such cases, the project's owners may contemplate filing a lawsuit against the contractor, especially if it is determined that the delays were inexcusable. In other circumstances, the parties involved may consider negotiating as a means of resolving the conflict. According to Danso and Antwi (2012) time and cost are crucial for both clients and contractors; any unanticipated delays may result in claims and conflicts, and one party may sue the other. If the contractor is to blame for the delay, the client will demand monetary compensation in the form of liquidated damages, and if the delay was caused by the client, the contractor will file a claim.

#### **1.4 Mitigation of project Delay**

Delays can be prevented by employing methods that can be implemented right from the outset of a project, such as careful planning and analysis of needs, which allows for resource mapping. The risk can be assessed and assigned in order to identify the work that has to be modularized. Escalating issues at the appropriate times also helps to avoid delays. Delays can be avoided when all project stakeholders work together to ensure the project's success. A proactive consultant must be hired before the project begins, the design and specifics must be frozen, and well-known contractors must be hired.

#### **1.5 Conceptual and theoretical framework**

Based on a review of the literature from various research and sources, 14 variables have been identified as recurring issues and risk factors that prevent projects to meet their deadlines. In order to see the causes of delay from the perspective of project management, the 14 variables can be categorized into 7 project management knowledge areas and 5 process categories, as shown below. After a thorough review of the literature, this framework was developed.

##### **1.5.1 Project Management Processes**

As per PMI (2017), the project life cycle is managed by carrying out a sequence of project management activities referred to as project management activities. The output of one process is usually used as input to another process or as a project phase deliverable.

“Project management is accomplished through the appropriate application and integration of logically grouped project management processes. While there are different ways of grouping

processes, the PMBOK® Guide groups processes into five categories called Process Groups” PMI (2017).

### **1.5.2 Project Management Process Groups**

According to PMI (2017) a Project Management Process Group is a logical grouping of project management procedures designed to achieve certain project objectives. Specific inputs and outputs link project management processes, and the result or outcome of one process may become the input to another process that is not necessarily in the same Process Group. Process groups and project phases are not the same thing. To categorize project management processes, the following five Project Management Process Groups are used: initiation process group, Planning process group, executing process group, monitoring and Control process group, and closing process group. According to PMI, there are five process groups and ten knowledge areas in project management. The five process groups are initiation, planning, execution, monitoring and control, and closing (PMI, 2013).

### **1.5.3 Project Management Knowledge Areas**

In addition to Process Groups, processes are also categorized by Knowledge Areas. A Knowledge Area is an identified area of project management defined by its knowledge requirements and described in terms of its component processes, practices, inputs, outputs, tools, and techniques.

Although the Knowledge Areas are interrelated, they are defined separately from the project management perspective. Following a review of the literature, fourteen variables were identified as frequently occurring challenges and risk factors that obstruct IT project timelines. In order to see the delay reasons from the perspective of project management, the fourteen variables can be divided into seven project management knowledge areas, as listed below.

As per PMI (2017) Scope management's major purpose is to define and regulate what is and is not inside scope. The project scope management processes are: plan scope management, collect requirements, define scope, create WBS, validate scope and control scope. Poor scope definition/ expanded project scope and design change/specification changes are fall under project scope management related causes of delay.

The process of ensuring that a project is delivered on time is referred to as project schedule management (PMI, 2017). The project schedule management are a set of procedures: plan schedule management, define activities, sequence activities, estimate activity durations, develop schedule and control schedule. Unrealistic project timeline, inadequate planning/poor estimation, over-ambitious estimates/ incorrect task assessment are identified as project schedule management related causes of delay.

The primary goal of project resource management is to obtain and administer resources for the project's success (PMI, 2017). Plan resource management, estimate activity resources, acquire resources, develop team, manage team and control resources are the Project Resource Management processes. Project resource management related delays have been characterized as resource constraints and expertise related issues.

For the project's timely completion, project communications management encompasses the procedures of identifying, crafting, regulating, circulating, and reaching out to stakeholders (PMI, 2017). The project communications management processes are: plan communications management, manage communications and monitor communications. Ineffective communication has been identified as a source of project communications management delays.

According to PMI (2017), project risk management embraces the activities of risk management planning, risk identification, response, application and monitoring. The project risk management processes are: plan risk management, identify risks, perform qualitative risk analysis, perform quantitative risk analysis, plan risk responses, implement risk responses and monitor risks. Due to a lack of risk management systems, project risk management delays have been recorded. The process of procuring services and products for the completion of a project is known as project procurement management (PMI, 2017). Plan procurement management, conduct procurements, and control procurements are all processes involved in project procurement management. Project procurement management related delay causes include inappropriate or inadequate procurement, vendors who do not deliver on time, and contractors and subcontractors with insufficient experience.

“Project Stakeholder Management Includes the processes required to identify the people, groups, or organizations that could impacted by the project, to analyse stakeholder

expectations and their effect on the project, and to develop appropriate management strategies for effectively engaging stakeholders in project decisions and execution” (PMI, 2017). The project stakeholder management processes are: identify stakeholders, plan stakeholder engagement, manage stakeholder engagement and monitor stakeholder engagement. Lack of senior management support, delayed decision making, and lack of user involvement and input are all elements that play a role in project stakeholder management related delays.

**Table 2.1 Project management process group, knowledge area and causes of delay mapping**

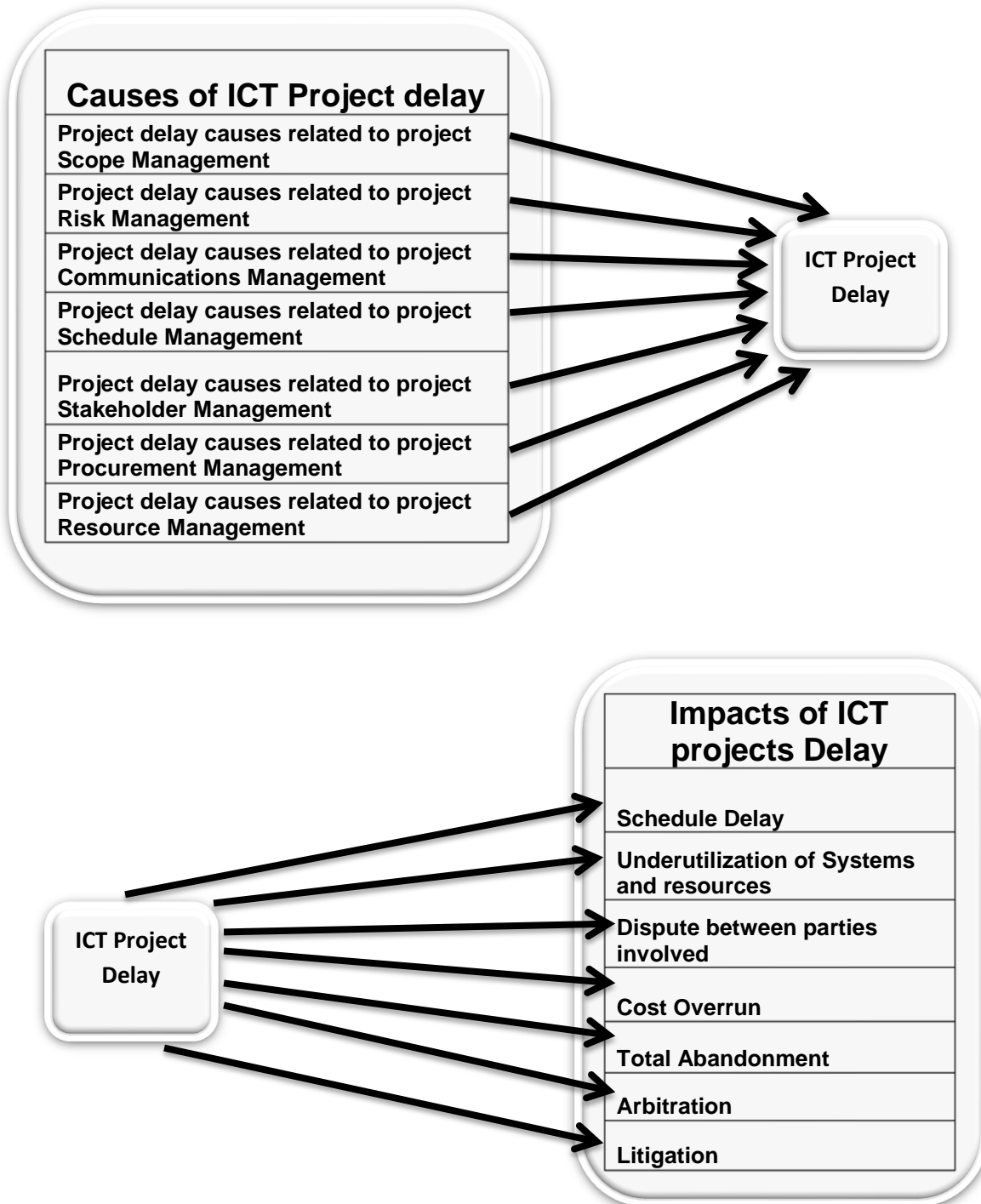
| <b>N.o</b> | <b>Delay Factor</b>                                 | <b>Identified Failed Process</b>  | <b>Knowledge Area</b>          | <b>Process Group</b>                     |
|------------|---|---|--------------------------------|--|
| 1.         | Unrealistic Project timeline                        | <ul style="list-style-type: none"> <li>• Plan Schedule Management</li> <li>• Estimate Activity Duration</li> <li>• Develop Schedule</li> </ul>  | Project Schedule Management    | Planning                                 |
| 2.         | Poor scope definition/Expanded project scope        | <ul style="list-style-type: none"> <li>• Plan Scope Management</li> <li>• Define Scope</li> <li>• Project Scope Management</li> <li>• Validate Scope</li> <li>• Control Scope</li> </ul>                    | Project Scope Management       | Planning, And Monitoring and Controlling |
| 3.         | Design Change/ Specification changes                | <ul style="list-style-type: none"> <li>• Plan Schedule Management</li> <li>• Collect Requirements</li> <li>• Develop Schedule</li> <li>• Validate Scope</li> <li>• Control Scope</li> </ul>                 | Project Scope Management       | Planning, And Monitoring and Controlling |
| 4.         | Inadequate planning/ Poor Estimation                | <ul style="list-style-type: none"> <li>• Plan Schedule Management</li> <li>• Define Activities</li> <li>• Sequence Activities</li> <li>• Estimate Activity Durations</li> <li>• Develop Schedule</li> </ul> | Project Schedule Management    | Planning                                 |
| 5.         | Over-ambitious estimates/ incorrect task assessment | <ul style="list-style-type: none"> <li>• Plan Schedule Management</li> <li>• Define Activities</li> <li>• Sequence Activities</li> <li>• Estimate Activity Durations</li> <li>• Develop Schedule</li> </ul> | Project Schedule Management    | Planning                                 |
| 6.         | Resource Constraints                                | <ul style="list-style-type: none"> <li>• Plan Resource Management</li> <li>• Estimate Activity Resources</li> <li>• Acquire Resources</li> <li>• Develop Team</li> <li>• Manage Team</li> </ul>             | Project Resource Management    | Planning, And Monitoring and Controlling |
| 7.         | Inappropriate/inadequate procurement                | <ul style="list-style-type: none"> <li>• Control Procurement</li> <li>• Conduct Procurements</li> <li>• Control Procurements</li> </ul>   | Project Procurement Management | Planning, And Monitoring and Controlling |
| 8.         | Expertise related problems                          | <ul style="list-style-type: none"> <li>• Plan Resource Management</li> <li>• Estimate Activity Resources</li> <li>• Acquire Resources</li> <li>• Develop Team Manage Team</li> </ul>                        | Project Resource Management    | Planning, And Monitoring and Controlling |

|     |   |   |                                   |   |
|-----|---|---|-----------------------------------|---|
| 9.  | Vendors' late deliveries and contractors/ subcontractors with insufficient experience | <ul style="list-style-type: none"> <li>• Control Procurement</li> <li>• Conduct Procurements</li> <li>• Control Procurements</li> </ul>   | Project Procurement Management    | Planning, And Monitoring and Controlling  |
| 10. | Ineffective communication   | <ul style="list-style-type: none"> <li>• Plan Communications Management</li> <li>• Manage Communications</li> <li>• Monitor Communications</li> </ul>   | Project Communications Management | Planning, And Monitoring and Controlling  |
| 11. | Lack of senior management support   | <ul style="list-style-type: none"> <li>• Manage Stakeholder Engagement</li> <li>• Monitor Stakeholder Engagement</li> </ul>   | Project Stakeholder Management    | Executing, And Monitoring and Controlling |
| 12. | Lack of risk management systems   | <ul style="list-style-type: none"> <li>• Plan Risk Management</li> <li>• Identify Risks</li> <li>• Perform Qualitative Risk Analysis</li> <li>• Perform Quantitative Risk Analysis</li> <li>• Plan Risk Responses</li> <li>• Implement Risk Responses</li> <li>• Monitor Risks</li> </ul> | Project Risk Management           | Planning, And Monitoring and Controlling  |
| 13. | slow decision making  | <ul style="list-style-type: none"> <li>• Manage Stakeholder Engagement</li> <li>• Monitor Stakeholder Engagement</li> </ul>   | Project Stakeholder Management    | Executing, And Monitoring and Controlling |
| 14. | Lack of user involvement and inputs   | <ul style="list-style-type: none"> <li>• Plan Stakeholder Engagement</li> <li>• Manage Stakeholder Engagement</li> </ul>  | Project Stakeholder Management    | Planning and Executing                    |

Source: Adopted from Project Management Institute (2017)

### 1.5.4 Conceptual Framework

Figure 1 Conceptual framework: Causes of ICT Project delay and Effects of ICT projects Delay



Source: Own survey 2022

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Research Approach**

According to Williams (2007) quantitative, qualitative, and mixed are the three most popular approaches to conduct research. The researcher foresees the types of data that will be required to answer the research question. “Researchers typically select the quantitative approach to respond to research questions requiring numerical data, the qualitative approach for research questions requiring textural data, and the mixed methods approach for research questions requiring both numerical and textural data.”

Creswell (2002) stated that quantitative research is the process of collecting, analysing, interpreting, and documenting the results of a study, while qualitative research is a method of gathering data, analysing it, and generating reports that differs from typical quantitative methods.

Both quantitative and qualitative research approaches are meant to answer a certain sort of research issue, and both analyse and explore distinct claims to knowledge. The qualitative method helps the researcher to investigate and better grasp the intricacy of a phenomenon, whereas the quantitative method gives an objective assessment of reality (Williams, 2007).

The researcher employed a quantitative methods strategy, which means that the data was collected and analysed in numerical representations.

#### **3.2 Description of the study area**

Banking in Ethiopia started in 1905, with the establishment of the Bank of Abyssinia that was owned by the Ethiopian government in partnership with the National Bank of Egypt then under British rule. But a well structure banking system started to evolve starting the 1940s after the Italian departure. A government owned bank-the State Bank of Ethiopia was established in 1942, and a number of foreign bank branches and a private bank were operating in competition with the government owned commercial bank until they were nationalized and merged into one government owned mono-bank in 1976.

Financial institutions, which include banks, trust companies, insurance companies, brokerage firms, and investment dealers, cover a wide range of commercial operations in the financial

services sector. The size, scope, and location of financial institutions can all vary (Hayes, 2022).

Financial institutions are legally constituted businesses that provide loans, mobilize savings, investments, and currency exchange. The National Bank of Ethiopia regulates and supervises these entities. In Ethiopia, the financial sector consists of the Ethiopian National Bank, commercial banks, the Ethiopian Development Bank, credit and savings cooperatives, insurance, and microfinance institutions. Ethiopian banking industry began in 1905, with the formation of the Bank of Abyssinia, which was controlled by the Ethiopian government at the time. However, following the Italian withdrawal in the 1940s, a well structured banking system began to emerge. The State Bank of Ethiopia, a government-owned bank, was founded in 1942, and it competed with a number of international bank branches and a private bank until 1976, when they were nationalized and combined into a single government owned mono-bank. In general, Ethiopia's financial industry is dominated by public banks. The Commercial Bank of Ethiopia (CBE), the industry's largest bank, controls 38.8% of the branch network (Gashayie & Singh, 2016). According to National Bank of Ethiopia (n.d) currently in Ethiopia there are 26 banks, 17 insurers and 39 microfinance institutes.

### **3.3. Research Design**

Descriptive research aims to describe and interpret what already exists. Therefore, it employs a number of research approaches reach this goal.

There are distinct sorts of research studies that try to achieve various knowledge outcomes. Basically, research is carried out to improve our understanding of what we already know, to broaden our knowledge of areas of the world about which we know little or nothing, and to help us to better understand the world we live in (Adams et al., 2007).

Adams et al. (2007) noted that descriptive study is primarily focused with describing phenomena rather than understanding why people behave the way they do. This type of research is extremely valuable for establishing baselines or "templates" for how we perceive the environment. It is frequently the beginning point for a research project into phenomena about which we know very.

This study aims to determine the causes and effects of an ICT project delay. As a result, the research is descriptive study, including results from questionnaires.

### **3.4 Target population and Sample**

#### **3.4.1 Target population**

The data was gathered from a number of IT personals from 18 banks, 4 insurance companies, 2 payment gateways, 3 microfinance institutions, 12 ICT implementation organizations, and 4 consulting firms to determine the fundamental reasons of ICT project delays. According to Greener (2008) the population refers to the entire universe of people or things from whom the sample is drawn. The study's target population was project team members who were working on a variety of ICT projects at various financial institutions. As a result, team members, including project managers and sponsors, are included in the target population. They are the best source of data for this study since they are involved in the day-to-day tasks of the projects from start to finish. The total number of project team members participated in the sampling was 264; however only 221 respondents reply were available. The sample was drawn from the 480 person population, with a confidence level of 95%, a margin of error of 5%, where the ideal sample size was 214.

#### **3.4.2 Sampling Techniques**

The method of selecting a suitable sample from a larger population in order to identify parameters or characteristics is referred to as sampling (Adams et al., 2007). Purposive sampling technique was applied in this study. It was employed to choose the sample for this thesis project from project managers, engineers, consultants, and team members that are directly involved in IT projects in various financial institutions. Purposive sampling is a common sampling approach that allows a researcher to collect data from a subset of the population that the researcher believes is the most knowledgeable about the subject. The selection of sample items in this sort of sampling is solely based on the investigator's discretion.

### **3.5. Data Type and Source**

The information gathered for records or any statistical research is referred to as data. Quantitative data types were employed in this study. Adams et al. (2007) stated that data can be classified into two categories: qualitative and quantitative. Qualitative data cannot be measured numerically, however quantitative data can be. The statistical analysis is based on quantitative data with suitable variable measurement.

Primary and secondary data sources are the two main types of data that are commonly employed in research. Primary sources are those for which we will need to conduct a fresh survey in order to acquire information at various levels in relation to the investigation. Secondary sources are ones that have been made available or gathered for another research. Secondary data is information gathered by someone else, and you can find a lot of it in books, libraries, and on the internet (Adams et al., 2007).

Primary and secondary data sources were employed in this investigation. The primary data was gathered through questionnaires. Secondary data was gathered from a variety of sources, including journals, books, researches and company papers.

### **3.6. Data collection methods and tools**

A questionnaire is used to acquire primary data from respondents, while secondary data is gathered from other research papers, journals, and the internet. According to Pimentel (2010) likert scaling is a psychometric scale that is frequently used in surveys and is the most commonly used scale in a questionnaire survey, particularly in social science research. The data is collected using questionnaires with a Likert scale. 21 Structured questionnaires, designed by researcher, were provided to project team as well as project managers and sponsors.

### **3.7. Data Analysis and Presentation**

Data should be analysed and presented in a form that is easily interpreted and understandable while conducting research. The information gathered from respondents via questionnaire was listed, sorted, analysed, and then interpreted. The data from the questionnaire was analysed using Google Forms and Microsoft Excel using statistical techniques and procedures. Before the data was tabulated, it was further reviewed for consistency and accuracy. According to Raju and Harinarayana (2016), in today's networked society, online survey tools or web-based survey tools have become typical data collection instruments. The introduction of web technology has simplified the process of designing, developing, and receiving user feedback. Web-based surveys were shown to be more reliable than face-to-face surveys (Lin & Wang, 2015 as cited in Raju & Harinarayana, 2016).

As per Raju and Harinarayana (2016), Google Forms is a cloud-based data management tool that can be used to craft, distribute, and administer web-based questionnaires. This Google

application allows developing web-based questionnaires for free. Another significant benefit is that data is available in a manner that is suited for analysis. Because the researcher does not have to manually enter respondent data, the risk of data coding error is reduced. Google Forms saves respondent data in a spread sheet and allows exporting it to other statistical packages for analysis if necessary. Data analysis and graphical presentation are both possible with Google Forms. When web questionnaires are completed online, the data is immediately captured in a Google spread sheet in an analysable format, allowing for data tabulation and graphical depiction.

The researcher chose this tool because of its simple design and convenience, as well as the ease with which it can reach more people and used to gather data and analyse replies. Furthermore, the researcher recommended that this technique be used because there was a significant time constraint element and to reach more respondent within short period of time.

### 3.8. Reliability Test

As per Adams et al. (2007) “Reliability estimates the consistency of the measurement or more simply, the degree to which an instrument measures the same way each time it is used under the same conditions with the same subjects. Reliability is essentially about consistency.” The reliability of the key questionnaire items was assessed using Cronbach's alpha. Cronbach's alpha is a measure of how reliable something is. It usually runs from 0 to 1. Internal consistency measures with coefficient alpha, commonly known as Cronbach's alpha, as the measure of item homogeneity were utilized in the reliability analysis (George & Mallery, 2003).

**Table 3.1 Cronbach's alpha**

| <b>Cronbach's Alpha</b> | <b>N of Items</b> |
|-------------------------|-------------------|
| <b>0.8778</b>           | <b>21</b>         |

### 3.9. Ethical Considerations

In research, the researcher needs to ensure that no one is hurt or suffers as a result of the study activities. Because the study's findings are dependent on the information supplied by the respondents, the researcher sought their permission and it is guaranteed that the information will remain confidential. Respondents are not needed to write their names in

order to protect the confidentiality of the data they provide, and they are assured that their responses will be treated with complete confidentiality.

Basic research ethics principles are maintaining the anonymity of respondents, protection from harm, data security and benefit to respondents (Fox, Murray & Warm, 2003).

1. **Maintaining the anonymity of respondents:** Maintaining the anonymity of respondents is a significant ethical consideration in research. Respondents are not asked to write their names in order to protect the anonymity of the information they provide.
2. **Protection from harm:** In any study, ensuring the well-being of the respondents is critical. The first is to ensure that the data that respondents have given to the researchers is protected. The second step entails ensuring that the respondent's involvement in the study has no negative consequences.
3. **Data security:** The first pertains to the idea of ensuring responder anonymity, while the second refers to the protection against data tampering.
4. **Benefit to respondents:** Given respondents' personal stake in the research, providing feedback on the study's findings is considered excellent ethical practice.

Furthermore, the researcher attempted to avoid including any assertions in the study that were misleading or deceptive. Finally, the surveys were distributed based on the participants' willingness to participate.

## **CHAPTER FOUR**

### **DATA PRESENTATION, ANALYSIS & INTERPRETATION**

#### **4.1 Introduction**

The data gathered through questionnaires is analysed, discussed and presented in this chapter. It goes into great detail regarding the key findings and discussions from the questionnaire about the factors that cause schedule overrun in financial institution ICT projects in great detail.

#### **4.2 Data collection and Response Rate**

A Likert Scale was used in the questionnaire. Using Google Form and Ms Excel, the percentage, mean, standard deviation, and relative importance index of the responses are analysed and interpreted. There were three sections to the questionnaire. It all starts with demographic data. The causes of the delay are discussed in the second part, and the effects of ICT project delays are discussed in the third segment. The questionnaire was created utilizing five scale ranges: 1 strongly disagrees, 2 disagrees, 3 disagrees, 4 agrees, and 5 strongly agrees. On a five-point scale ranging from 1 to 5, respondents were asked to rate delay causes and effects factors on the basis of their frequency of occurrence, which ranged from rarely to very frequently.

The descriptive data analysis is used to analyse and interpret the data gathered from the questionnaire's closed-ended questions. To rank causes, appropriate statistical results are presented in a tabular manner, followed by discussions, and measured using mean, standard deviation, and the Relative Importance Index (RII).

A total of 264 IT professionals who work in financial institutions were surveyed for this study. A total of 264 questionnaires were issued to the respondents, of which 221 were completed and collected, resulting in an 83.71 % response rate.

#### **4.3 Demographic Information of Respondents**

This study included key demographic characteristics such as gender, level of education, occupational status, years of experience and project experience.

**Table 4.1 Demographic characteristics of the respondents**

| No |                                |                                    | Respondents |             |
|----|--------------------------------|------------------------------------|-------------|-------------|
|    |                                |                                    | Frequency   | Percentages |
| 1  | Gender                         | Male                               | 188         | 85.07%      |
|    |                                | Female                             | 33          | 14.93%      |
| 2  | Institution/Company Type       | Bank                               | 128         | 57.92%      |
|    |                                | Insurance                          | 20          | 9.05%       |
|    |                                | Micro Finance                      | 12          | 5.43%       |
|    |                                | Payment system/ Payment Gateway    | 14          | 6.33%       |
|    |                                | Consultant                         | 9           | 4.07%       |
|    |                                | Solution Implementer               | 38          | 17.19%      |
| 3  | Educational level              | Diploma                            | -           | -           |
|    |                                | Bachelor Degree                    | 123         | 56%         |
|    |                                | Master's Degree                    | 98          | 44%         |
|    |                                | PhD                                | -           | -           |
| 4  | Position in the organization : | Junior Officer                     | 4           | 2%          |
|    |                                | Officer                            | 40          | 18%         |
|    |                                | Senior Officer                     | 89          | 40%         |
|    |                                | Division Head                      | 16          | 7%          |
|    |                                | Manager                            | 59          | 27%         |
|    |                                | Director                           | 10          | 5%          |
|    |                                | Vice President                     | 1           | 0%          |
|    |                                | President                          | 2           | 1%          |
| 5  | Position in the Project Office | Project manager                    | 37          | 16.74%      |
|    |                                | Project Coordinator                | 21          | 9.50%       |
|    |                                | Project Implementation team member | 96          | 43.44%      |
|    |                                | Project Team Leader                | 39          | 17.65%      |
|    |                                | Project Director                   | 12          | 5.43%       |
|    |                                | Project Sponsor                    | 2           | 0.90%       |
|    |                                | Consultant                         | 14          | 6.33%       |

|   |  |                |     |        |
|---|--|----------------|-----|--------|
| 6 | <b>Year of experience in ICT Sector</b>  | Below 5        | 42  | 19.00% |
|   |  | 6 to 10        | 91  | 41.18% |
|   |  | 11 to 15       | 74  | 33.48% |
|   |  | 16 and above   | 14  | 6.33%  |
| 7 | <b>Year of experience in working on ICT projects</b>                             | Below 2        | 47  | 21.27% |
|   |  | 3 to 5         | 86  | 38.91% |
|   |  | 6 to 10        | 55  | 24.89% |
|   |  | Above 10       | 33  | 14.93% |
| 8 | <b>How many IT/IS project implementation activities have you participated in</b> | 1 Project      | 33  | 14.93% |
|   |  | 2 – 4 Project  | 104 | 47.06% |
|   |  | 5 – 10 Project | 47  | 21.27% |
|   |  | Above 10       | 37  | 16.74% |
| 9 | <b>Have you taken project related training provided by any institutions</b>      | Yes            | 137 | 61.99% |
|   |  | No             | 84  | 38.01% |

Source: Own survey 2022

As shown in the table above, males account for 85.07% of respondents, while females account for 14.93%. We can deduce from table that the majority of the participants in this study are male.

As it indicated on the above table it appears respondents are 57.92% from bank, 9.05% from Insurance, 5.43% from microfinance, 6.33% from payment gateway, 4.07% consultants and 17.19% solution implementers. From the result we can conclude that responses are collected from most of players in the industry.

According to the above table, 57.92% of respondents work for banks, 9.05% for insurance, 5.43% for microfinance, 6.33% for payment gateways, 4.07% for consulting firms, and 17.19% for solution implementers. We can presume that the sample covers almost all important financial sector players based on the findings.

In terms of education, 56% of respondents have a bachelor's degree, while the remaining 44% have a master's degree. As a result of the distribution, the responses appear to be highly qualified and experienced project team members.

80% of the participants are senior officers or higher in terms of occupational standing, as seen in the table above. The study included 2 bank presidents, 1 vice president, 10 directors, 59 managers, 14 division heads, and 82 senior officials. We can deduce from the statistics that participants have extensive knowledge of the subject. Project managers (16.74%), project coordinators (9.50%), team leaders (17.65%), project directors (5.43%), project sponsors (0.90%), consultants (6.33%), and project team members (43.44%) were included among the participants. More over half of the participants were project leaders in various projects, according to the data.

According to the data gathered, 19% of respondents had less than 5 years of experience in their firm, while 41.18 %, 33.48%, and 6.33% have 6 – 10 years, 11 – 15 years, and more than 16 years of experience as IT experts, respectively. More than 80% of respondents had at least 6 years of industry experience, indicating that the majority of them have sufficient ICT background knowledge.

When it comes to working experience in ICT projects, 21.27% of the team members have less than two years of experience, 38.91% have 3-5 years of experience, 24.89% have 6-10 years of experience, and 14.93% have more than 10 years of experience. In terms of the number of ICT projects participated by respondents, 47.06% completed two to four projects, 21.27% completed five to ten projects, and 16.74% completed more than ten projects.

Finally, 61.99% of the participants received project management training in some form or another, according to the findings.

#### **4.4. Reliability Analysis**

Before examining the acquired data, the reliability of the key questionnaire items was assessed using Cronbach's alpha. Cronbach's alpha is a measure of how reliable something is. It usually runs from 0 to 1. Internal consistency measures with coefficient alpha, commonly known as Cronbach's alpha, as the measure of item homogeneity were utilized in the reliability analysis (George & Mallery, 2003). George and Mallery (2003) offer the following guidelines: Anything above 0.9 is regarded excellent, anything between 0.9 and 0.8 is considered Good, 0.8-0.7 is Acceptable, 0.7-0.6 is Questionable, anything less than 0.6 but above 0.5 is Poor, and anything less than 0.5 is Unacceptable. Cronbach's Alpha for this study is 0.8778, indicating that all items are internally consistent.

#### 4.5 Causes of ICT project delay

A literature analysis selected 14 and 7 variables, respectively, to measure delay causes and effects, and respondents were asked to rate how strongly they believe the identified variables contributed for the factors using questionnaires. The mean, standard deviation, RII, and percentage findings from the Likert scale are interpreted assuming that all scales from 1 to 5 have the same values. Thus, mean results between 1 and 1.8 are classified as strongly disagree, 1.8 to 2.6 as disagree, 2.6 to 3.4 as neutral, 3.4 to 4.2 as agree, and 4.2 to 5 as strongly agree. Additionally, a standard deviation of less than one implies that the respondents are in agreement, whereas a standard deviation of more than one suggests that the respondents have differing viewpoints.

##### 4.5.1 Interpretation of project delay factors related to project scope management

**Table 4.2 Presentation of Project delay factors related project Scope Management**

| No . | Project delay causes related to project Scope Management | Scale                                      | Frequenc y | Percentage | Mean        | SD          | RII           |
|------|--|--|------------|------------|-------------|-------------|---------------|
| 1    | Poor scope definition/Expanded project scope             | Strongly Agree                             | 84         | 38%        | 4.12        | 0.94        | 0.8235        |
|      |  | Agree                                      | 103        | 47%        |             |             |               |
|      |  | Neutral                                    | 13         | 6%         |             |             |               |
|      |  | Disagree                                   | 18         | 8%         |             |             |               |
|      |  | Strongly disagree                          | 3          | 1%         |             |             |               |
| 2    | Design Change/ Specification changes                     | Strongly Agree                             | 65         | 29%        | 4.08        | 0.79        | 0.8154        |
|      |  | Agree                                      | 121        | 55%        |             |             |               |
|      |  | Neutral                                    | 22         | 10%        |             |             |               |
|      |  | Disagree                                   | 13         | 6%         |             |             |               |
|      |  | Strongly disagree                          | 0          | 0%         |             |             |               |
|      |  | <b>Average Mean and Standard Deviation</b> |            |            | <b>4.10</b> | <b>0.86</b> | <b>0.8195</b> |

Source: Own survey, 2022

According to the findings, the majority of respondents believe project scope management factors played a significant role in the project implementation delay, with an average mean value of 4.10 (~agree) and standard deviation of 0.86.

For “poor scope definition/expanded project scope,” 84(38%) are strongly agree, 103(47%) are agree, 13(6%) are neutral, 18(8%) are disagree and 3(1%) are strongly disagree. The standard deviation to the mean value of 4.12 (~agree) is 0.94, indicating that the majority of respondents agree on the subject.

“Design change/specification changes” was one of the causes mentioned by the respondents. 65(29%) are strongly agree, 121(55%) are agree, 22(10%) are neutral, 13(6%) are disagree and 0(0%) are strongly disagree. Furthermore, the standard deviation of the mean value of 4.08 (~agree) is 0.79, indicating that the majority of respondents are in agreement on the topic.

The majority of respondents believe that poor scope definition/expanded project scope, as well as design change/specification changes, has had a significant negative effect on the schedule of ICT projects, which is consistent with the findings of (Molner, 2007; Sweis, 2015); Kroenke, 2010; Larson & Larson, 2009). In general, the findings suggest that project delay causes related to project scope management had a significant role in the schedule overrun of ICT projects in financial institutions.

#### 4.5.2 Interpretation project delay factor related to project schedule management

**Table 4.3 Presentation of Project delay factor related to project schedule management**

| No.  | Project delay causes related to project Schedule Management | Scale             | Frequency | Percentage | Mean        | SD          | RII           |
|--|---|-------------------|-----------|------------|-------------|-------------|---------------|
| 1  | Unrealistic Project timeline                                | Strongly Agree    | 71        | 32.13%     | 4.04        | 0.91        | 0.8072        |
|  |   | Agree             | 110       | 49.77%     |             |             |               |
|  |   | Neutral           | 18        | 8.14%      |             |             |               |
|  |   | Disagree          | 21        | 9.50%      |             |             |               |
|  |   | Strongly disagree | 1         | 0.45%      |             |             |               |
| 2  | Inadequate planning/Poor Estimation                         | Strongly Agree    | 61        | 27.60%     | 3.90        | 1.00        | 0.7801        |
|  |   | Agree             | 112       | 50.68%     |             |             |               |
|  |   | Neutral           | 18        | 8.14%      |             |             |               |
|  |   | Disagree          | 25        | 11.31%     |             |             |               |
|  |   | Strongly disagree | 5         | 2.45%      |             |             |               |
| 3  | Over-ambitious estimates/Incorrect task assessment          | Strongly Agree    | 42        | 19.00%     | 3.81        | 0.91        | 0.7629        |
|  |   | Agree             | 123       | 55.66%     |             |             |               |
|  |   | Neutral           | 34        | 15.38%     |             |             |               |
|  |   | Disagree          | 17        | 7.69%      |             |             |               |
|  |   | Strongly disagree | 5         | 2.26%      |             |             |               |
| <b>Average Mean and Standard deviation</b> |   |                   |           |            | <b>3.92</b> | <b>0.94</b> | <b>0.7834</b> |

Source: Own survey, 2022

According to the responses of respondents who took part in this study, the influence of project schedule management factors on ICT project implementation delay is high, with an average mean value of 3.92 (~agree) and a standard deviation of 0.94.

For the factor of “unrealistic project timeline,” 71(32.13%) are strongly agree, 110(49.77%) are agree, 18(8.14%) are neutral, 21(9.50%) are disagree and 1 (0.45%) are strongly disagree. The mean value of responses to the question of how much the unrealistic Project timetable affects the project's schedule overrun is determined to be 4.04 (~agree). This figure indicates that this aspect played a significant role in the project's delays. The standard deviation score of 0.91 indicates that the majority of respondents believe this delay factor is a major contributor to the timetable overrun.

The following survey data of project schedule management linked causes is “inadequate planning/poor estimation,” and the respondents react as follows: 61(27.60%) are strongly agree, 112(50.68%) are agree, 18(8.14%) are neutral, 25(11.31%) are disagree and 5(2.45%) are strongly disagree. This factor is one of the biggest contributors to delay, as seen by the mean average of 3.90 (~agree) and standard deviation of 1. Furthermore, the majority of responders agree on the topic.

The delay factor's mean value is calculated to be 3.81 (~agree) when we look at the results of over-ambitious estimates/incorrect task assessment. This demonstrates that overly optimistic predictions or erroneous work assessments have a significant effect on project delays. Furthermore, the 0.91 value of the standard deviation indicates that the respondents are in agreement on the subject. “Over-ambitious estimates/ incorrect task assessment” were among the main reasons given by respondents. 42(19.00%) are strongly agree, 123(55.66%) are agree, 34(15.38%) are neutral, 17(7.69%) are disagree and 5(2.26%) are strongly disagree.

In summary, according to the findings unrealistic project timelines, inadequate planning or poor estimation, over-ambitious estimates or incorrect task assessment, according to the majority of respondents, had a significant negative effect on the project schedule, which is consistent with the study of (Nasir & Sahibuddin, 2011; Sweis, 2015; Thomas et al 2007; Hallows, 2005; Majerowicz & Shinn, 2016; Kimberling, 2020).

#### 4.5.3 Interpretation of project delay factors related to project resource management

**Table 4.4 Presentation of Project delay factors related to project Resource Management**

| No. | Project delay causes related to project | Scale | Frequency | Percentage | Mean | SD | RII |
|-----|---|-------|-----------|------------|------|----|-----|
|-----|---|-------|-----------|------------|------|----|-----|

| <b>Resource Management</b>                 |                          |                   |     |        |             |             |               |
|--|--------------------------|-------------------|-----|--------|-------------|-------------|---------------|
| 1  | Resource Constraints     | Strongly Agree    | 43  | 19.46% | 3.63        | 1.08        | 0.7267        |
|  |                          | Agree             | 103 | 46.61% |             |             |               |
|  |                          | Neutral           | 37  | 16.74% |             |             |               |
|  |                          | Disagree          | 27  | 12.22% |             |             |               |
|  |                          | Strongly disagree | 11  | 4.98%  |             |             |               |
| 2  | Expertise related issues | Strongly Agree    | 60  | 27.15% | 3.93        | 0.95        | 0.7267        |
|  |                          | Agree             | 113 | 51.13% |             |             |               |
|  |                          | Neutral           | 24  | 10.86% |             |             |               |
|  |                          | Disagree          | 20  | 9.05%  |             |             |               |
|  |                          | Strongly disagree | 4   | 1.81%  |             |             |               |
| <b>Average Mean and Standard Deviation</b> |                          |                   |     |        | <b>3.78</b> | <b>1.02</b> | <b>0.7267</b> |

Source: Own survey, 2022

According to the respondents, project delay factors associated to “project resource management” have a negative effect on project schedules, with a mean value of 3.78 (~agree) and a standard deviation of 1.02.

“Resource constraints” are a major contributor to project time overruns, as evidenced by a mean value of 3.63 (~agree). The standard deviation of 1.08, on the other hand, indicates that the respondents had differing views on the subject. For the causes of 'Resource Constraints,' 43(19.46%) are strongly agree, 103(46.61%) are agree, 37(16.74%) are neutral, 27(12.22%) are disagree and 11(4.98%) strongly disagree.

For “expertise-related factors,” the average mean value of 3.93 (~agree) and standard deviation of 0.95 show that the majority of respondents believe these variables have a considerable negative effect on project timeline. 60(27.15%) are strongly agree, 113(51.13%) are agree, 24(10.86%) are neutral, 20(9.05%) are disagree and 4(1.81 %) are strongly disagree among those who completed the survey and responded for the reason of “expertise-related difficulties.”

It was discovered that project delays are caused by a lack of experienced consultants, insufficient human resource management, a lack of strong leadership and poor soft skills, the assignment of unqualified personnel to the project, a lack of resources, and a lack of project management expertise. In general, the factors under project resource management, according to the majority of respondents, are substantial contributors to the delay. Furthermore, these results are in line with the literature review, which includes works by (Habibi, Barzinpour & Sadjadi, 2018; Alemayehu, 2015; Eja and Ramegowda, 2019).

#### 4.5.4 Interpretation of project delay factors related to project communications management

**Table 4.5 Presentation of Project delay factors related to project Communications Management**

| No. | Project delay causes related to project Communications Management | Scale                                      | Frequency | Percentage | Mean        | SD          | RII           |
|-----|---|--|-----------|------------|-------------|-------------|---------------|
| 1   | Ineffective communication   | Strongly Agree                             | 64        | 28.96%     | 3.93        | 0.99        | 0.7855        |
|     |   | Agree                                      | 107       | 48.42%     |             |             |               |
|     |   | Neutral                                    | 26        | 11.76%     |             |             |               |
|     |   | Disagree                                   | 18        | 8.14%      |             |             |               |
|     |   | Strongly disagree                          | 6         | 2.71%      |             |             |               |
|     |   | <b>Average Mean and Standard Deviation</b> |           |            | <b>3.93</b> | <b>0.99</b> | <b>0.7855</b> |

Source: Own survey, 2022

As shown in the above table, respondents who participated in this research believe that project communication management related factors on ICT project implementation delay is determined to be high, with an average mean value of 3.93 (~agree) and a standard deviation of 0.99. For the causes of “ineffective communication,” 64(28.96%) are strongly agree, 107(48.42%) are agree, 26(11.76%) are neutral, 18(8.14%) are disagree and 6(2.71%) are strongly disagree, according to the results.

To summarize, the majority of respondents believe that project communications management is a significant contributor to the delay. Poor communication throughout the planning and implementation of projects, according to Eja and Ramegowda (2019), is a formula for disaster. Poor communication, on the other hand, according to Hussain et al. (2018), could lead to the project's failure in the long run.

#### 4.5.5 Interpretation project delay factor related to project Risk Management

**Table 4.6 Presentation of Project delay factor related to project Risk Management**

| No. | Project delay causes related to project Risk Management | Scale                                      | Frequency | Percentage | Mean        | SD          | RII           |
|-----|---|--|-----------|------------|-------------|-------------|---------------|
| 1   | Lack of risk management systems                         | Strongly Agree                             | 58        | 26.24%     | 3.95        | 0.90        | 0.7891        |
|     |   | Agree                                      | 116       | 52.49%     |             |             |               |
|     |   | Neutral                                    | 27        | 12.22%     |             |             |               |
|     |   | Disagree                                   | 17        | 7.69%      |             |             |               |
|     |   | Strongly disagree                          | 3         | 1.36%      |             |             |               |
|     |   | <b>Average Mean and Standard Deviation</b> |           |            | <b>3.95</b> | <b>0.90</b> | <b>0.7891</b> |

Source: Own survey, 2022

Project delay factors related to “project risk management” have an average mean value of 3.95 (~agree) and a standard deviation of 0.90, according to the responses of the participants

in this study. This result suggests that the vast majority of respondents are in agreement on the subject. For the causes of lack of risk management systems, 58(26.24%) are strongly agree, 116(52.49%) are agree, 27(12.22%) are neutral, 17(7.69%) are disagree and 3(1.36%) are strongly disagree.

To sum up, the most of respondents believe that project risk management is a substantial contributor to the delay. A risk, according to The Standish Group (2010), is a hazard to the success of a project, whether physical, estimation, financial, or political.

#### 4.5.6 Interpretation of project delay factors related to project procurement management

**Table 4.7 Presentation of Project delay factors related to project Procurement Management**

| No. | Project delay causes related to project Procurement Management                       | Scale                                      | Frequency | Percentage | Mean        | SD          | RII           |
|-----|--|--|-----------|------------|-------------|-------------|---------------|
| 1   | Inappropriate/Inadequate procurement   | Strongly Agree                             | 67        | 30.32%     | 3.93        | 0.97        | 0.7855        |
|     |  | Agree                                      | 97        | 43.89%     |             |             |               |
|     |  | Neutral                                    | 35        | 15.84%     |             |             |               |
|     |  | Disagree                                   | 18        | 8.14%      |             |             |               |
|     |  | Strongly disagree                          | 4         | 1.81%      |             |             |               |
| 2   | Vendors' late deliveries and contractors/subcontractors with insufficient experience | Strongly Agree                             | 54        | 24.43%     | 3.90        | 0.95        | 0.7792        |
|     |  | Agree                                      | 120       | 54.30%     |             |             |               |
|     |  | Neutral                                    | 22        | 9.95%      |             |             |               |
|     |  | Disagree                                   | 20        | 9.05%      |             |             |               |
|     |  | Strongly disagree                          | 5         | 2.26%      |             |             |               |
|     |  | <b>Average Mean and Standard Deviation</b> |           |            | <b>3.91</b> | <b>0.96</b> | <b>0.7824</b> |

Source: Own survey, 2022

According to the respondents' replies, the majority of the research participants agree on the factor as a driver of project delay, with an average mean value of 3.91 (~agree) and a standard deviation of 0.96 for Project delay factors related to “project procurement management.”

With a standard deviation of 0.94 and a mean value of 3.93 (~agree), the majority of the respondents agree that “inappropriate/inadequate procurement” is one of the key causes of project delays. This result suggests that the vast majority of respondents are in agreement on the subject, 67(30.32%) are strongly agree, 97(43.89%) are agree, 35(15.84%) are neutral, 18(8.14%) are disagree and 4(1.81%) are strongly disagree.

For the causes of “vendors' late deliveries and contractors/subcontractors with insufficient experience,” which 54(24.43%) are strongly agree, 120(54.30%) are agree, 22(9.95%) are neutral, 20(9.05%) are disagree and 5(2.26%) are strongly agree. Furthermore, standard deviation 3.91 to the mean value 0.96 (~agree) indicates that the majority of respondents believe the factor played a significant role in the project's delay.

To summarize, the majority of respondents agree that inappropriate/ inadequate procurement, and vendors' late deliveries and contractors/subcontractors with insufficient experience have a negative effect on project implementation schedules. In addition, these findings are consistent with the literature evaluation, which includes studies by (Nawi, Rahman, & Ibrahim, 2011; Eriksson & Westeberg (n.d.); Kafile & Fore, 2018; Alemayehu, 2015).

#### 4.5.7 Interpretation of project delay factor related to project Stakeholder Management

**Table 4.8 Presentation of Project delay factor related to project Stakeholder Management**

| No. | Project delay causes related to project Stakeholder Management | Scale                                      | Frequency | Percentage | Mean        | SD          | RII           |
|-----|--|--|-----------|------------|-------------|-------------|---------------|
| 1   | Lack of senior management support                              | Strongly Agree                             | 54        | 24.43%     | 3.74        | 1.04        | 0.7484        |
|     |  | Agree                                      | 94        | 42.53%     |             |             |               |
|     |  | Neutral                                    | 40        | 18.10%     |             |             |               |
|     |  | Disagree                                   | 28        | 12.67%     |             |             |               |
|     |  | Strongly disagree                          | 5         | 2.26%      |             |             |               |
| 2   | slow/delayed decision making                                   | Strongly Agree                             | 81        | 36.65%     | 4.14        | 0.87        | 0.8271        |
|     |  | Agree                                      | 105       | 47.51%     |             |             |               |
|     |  | Neutral                                    | 22        | 9.95%      |             |             |               |
|     |  | Disagree                                   | 10        | 4.52%      |             |             |               |
|     |  | Strongly disagree                          | 3         | 1.36%      |             |             |               |
| 3   | lack of user involvement and Input                             | Strongly Agree                             | 51        | 23.08%     | 3.86        | 0.92        | 0.7729        |
|     |  | Agree                                      | 116       | 52.49%     |             |             |               |
|     |  | Neutral                                    | 30        | 13.57%     |             |             |               |
|     |  | Disagree                                   | 21        | 9.50%      |             |             |               |
|     |  | Strongly disagree                          | 3         | 1.36%      |             |             |               |
|     |  | <b>Average Mean and Standard Deviation</b> |           |            | <b>3.91</b> | <b>0.94</b> | <b>0.7828</b> |

Source: Own survey, 2022

The “project stakeholder management” factors have an average mean value of 3.91 (~agree) and a standard deviation of 0.94, indicating that most respondents believe these factors have a significant negative effect on the project schedule.

Out of which 54(24.43%) are strongly agree, 94(42.53%) are agree, 40(18.10%) are neutral, 28(12.67%) are disagree and 5(2.26%) are strongly agree. The majority of the respondents agree that “lack of senior management support” is one of the key causes of project delays. With a standard deviation of 1.04, which shows the respondents have different perceptions on the issue. The mean value of 3.74 (~agree) shows that lack of senior management support affects the schedule of the project negatively.

According to the respondents, “slow/delayed decision making” is one of the major contributors to project implementation delays, with a mean value of 4.14 (~agree) and a standard deviation of 0.87. For “slow/delayed decision making,” 81(36.65%) are strongly agree, 105(47.51%) are agree, 22(9.95%) are neutral, 10(4.52%) are disagree and 3(1.36%) are strongly disagree.

When asked how much “lack of user involvement and input” affects project timetable negatively, the mean value response was 3.86 (~agree) and the standard deviation score of 0.92. This figure shows that this factor contributed significantly to the project's delays. The majority of respondents believe this delay factor is a considerable cause to the time overrun. For “lack of user involvement and Input,” 51(23.08%) are strongly agree, 116(52.49%) are agree, 30(13.57%) are neutral, 21(9.50%) are disagree and 3(1.36%) are strongly disagree.

In general, the factors under project stakeholder management are strongly contributing factors of the delay, according to the majority of respondents. This is in line with the findings of the literature review. Several academics, including (Pecherskayaa et al., 2016; Roberts & Barar, 1992; Kimberling, 2020; Discenza & Forman, 2007; Sweis, 2015; Nawi, Rahman & Ibrahim, 2011), have backed up the findings.

#### **4.5 Rank of the delay factors**

##### **4.5.1 Rank of delay factors related to project management knowledge area**

Identifying which project management knowledge areas were most responsible for the ICT project delay is beneficial in directing attention and guiding the future action required to resolve the issues. As a result, the analysis is conducted using the factors' relative relevance index (RII).

**Table 4.9 Causes of Delay related to project management Knowledge area**

| No. | Causes of Delay related to project management Knowledge area | RII | Rank |
|-----|--|-----|------|
|-----|--|-----|------|

|   |   |         |   |
|---|---|---------|---|
| 1 | Project delay causes related to project Scope Management          | 0.81946 | 1 |
| 2 | Project delay causes related to project Risk Management           | 0.78914 | 2 |
| 3 | Project delay causes related to project Communications Management | 0.78552 | 3 |
| 4 | Project delay causes related to project Schedule Management       | 0.78341 | 4 |
| 5 | Project delay causes related to project Stakeholder Management    | 0.78281 | 5 |
| 6 | Project delay causes related to project Procurement Management    | 0.78235 | 6 |
| 7 | Project delay causes related to project Resource Management       | 0.72670 | 7 |

Source: Own survey, 2022

The project scope management related factors are placed first in the above table, followed by the project risk management related factor in second place. Similarly, project communications management related factors hold the third place followed by project schedule management related factors, project stakeholder management and project procurement management related factors with a rank of fourth, fifth and sixth place respectively. Finally project resource management related factor ranked seventh. According to the majority of participants, these ranks illustrate the causes of delay in ICT projects in financial institutions that are related to project management knowledge area.

#### 4.5.2 Ranks of each delay factors under each project management knowledge areas.

A relativity importance index is utilized in order to rank the causes of each of the individual delay factors identified and analysed.

**Table 4.10 Ranks for Causes of Delay related to each of the individual delay factors**

| No. | Causes of ICT project Delay  | RII    | Rank |
|-----|--|--------|------|
| 1   | Slow/delayed decision making   | 0.8271 | 1    |
| 2   | Poor scope definition/Expanded project scope   | 0.8235 | 2    |
| 3   | Design Change/Specification changes  | 0.8154 | 3    |
| 4   | Unrealistic Project timeline   | 0.8072 | 4    |
| 5   | Lack of risk management systems  | 0.7891 | 5    |
| 6   | Expertise related issues   | 0.7855 | 6    |
| 7   | Ineffective communication  | 0.7855 | 6    |
| 8   | Inappropriate/Inadequate procurement   | 0.7855 | 6    |
| 9   | Inadequate planning/Poor Estimation  | 0.7801 | 9    |
| 10  | Vendors' late deliveries and contractors/subcontractors with insufficient experience | 0.7792 | 10   |
| 11  | lack of user involvement and contributions   | 0.7729 | 11   |
| 12  | Over-ambitious estimates/Incorrect task assessment                                   | 0.7629 | 12   |

|    |   |        |    |
|----|---|--------|----|
| 13 | Lack of senior management support         | 0.7484 | 13 |
| 14 | Resource Constraints or Lack of Resources | 0.7267 | 14 |

Source: Own survey, 2022

Slow/delayed decision making, poor scope definition/expanded project scope, design change/specification changes, unrealistic project timeline, lack of risk management systems related factors are the top five delay drivers, according to the aforementioned results.

Slow/delayed decision making RII (0.8271), according to the majority of respondents in this study, it is the number one factor that contributes to project delays, closely followed by poor scope definition/expanded project scope with RII (0.8235). A design change/specification changes with RII (0.8154), is the other element that ranks third in terms of the frequency with which respondents respond. Unrealistic project timeline ranks fourth in terms of the frequency with which respondents answer with relative importance index of 0.8072. Lack of risk management systems are ranked fifth among project delay factors, and the majority of respondents believe they are a major contributor to schedule overruns. Thus, the outcomes of this study appear to be consistent with the literature review.

#### 4.6 Effects of ICT Projects Delay

The second goal of this study is to determine the effects of time overruns on financial institute ICT projects. Time overrun has a major effect on various areas, according to the study.

##### 4.6.1 Descriptive analysis of Effects of project delay

**Table 4.11 Effects of ICT Projects Delay**

| No. | Factor                                    | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Count N | Mean | Standard Deviation |
|-----|---|----------------|-------|---------|----------|-------------------|---------|------|--------------------|
| 1   | Cost Overrun                              | 56             | 101   | 35      | 20       | 9                 | 221     | 3.79 | 1.05               |
| 2   | Schedule Delay                            | 68             | 124   | 21      | 6        | 2                 | 221     | 4.13 | 0.76               |
| 3   | Dispute between parties involved          | 46             | 126   | 33      | 12       | 4                 | 221     | 3.90 | 0.85               |
| 4   | Arbitration                               | 12             | 75    | 104     | 26       | 4                 | 221     | 3.29 | 0.81               |
| 5   | Litigation                                | 12             | 63    | 109     | 25       | 12                | 221     | 3.17 | 0.90               |
| 6   | Total Abandonment                         | 18             | 95    | 59      | 41       | 8                 | 221     | 3.33 | 0.99               |
| 7   | Underutilization of Systems and resources | 52             | 121   | 28      | 14       | 6                 | 221     | 3.90 | 0.92               |

Source: Own survey, 2022

“Cost overrun” is one of the leading effects of project delays. 9(4.07%) are strongly disagree and 20(9.05%) disagree, 35(15.84%) neutral, 101(45.70%) agree and 56(25.34%) are strongly agree. The replies to the question of how much cost overrun is considered as an effect to project delay had a mean value of 3.79 (~agree). However, the standard deviation of 1.05 indicates that there are a wide range of viewpoints on the subject.

Among those who responded for the effect “schedule delay,” 2(0.91%) are strongly disagree and 6(2.72%) disagree, 21(9.50%) neutral, 124(56.11%) agree and 68(30.77%) are strongly agree. With a mean score of 4.13 (~agree) and a standard deviation of 0.76, respondents felt that schedule delay is one of the major effects of ICT project delays.

“Dispute between parties involved” was one of the effects of delay mentioned by the respondents. 4(1.81%) are strongly disagree, 12(5.43%) are disagree, 33(14.93%) neutral, 126(57.01%) agree and 46 (20.81%) are strongly agree. Furthermore, the standard deviation of the mean value of 3.90 (~agree) is 0.84, indicating that the majority of respondents are in agreement on the matter.

The following survey data linked to effect is “arbitration” and the respondents react as follows: 4(1.81%) are strongly disagree, 26(11.77%) are disagree, 104(47.06%) neutral, 75(33.94) agree and 12(5.43%) are strongly agree. This has a medium effect to ICT projects as a result of delay, as seen by the mean average of 3.29 (~neutral) and standard deviation of 0.81. Furthermore, the majority of responders agree on the topic and has medium effect as a result of the delay.

“Litigation” is considered as effect of delay caused by project time overrun, 12(5.43%) are strongly disagree and 25(11.31%) disagree, 109(49.32%) neutral, 63(28.51%) agree and 12(5.43%) strongly agree. The replies to the question of how much litigation is considered as an effect to project delay had a mean value of 3.17 (~neutral) and standard deviation score is 0.90. This figure indicates that the chance litigation to occur because of project delay is medium.

“Total abandonment” as effects of project delay counts mildly as per the data collected from respondent, as evidenced by a mean value of 3.33 (~neutral) and standard deviation of 0.99. For the effects of “ total abandonment”, 8(3.62%) are strongly disagree, 41(18.55%) are disagree, 59(26.70%) neutral, 95(42.99%) agree and 18(8.15%).

Among those who responded for the effect “underutilization of systems and resources,” 6(2.72%) are strongly disagree, 14(6.34%) are disagree, 28(12.67%) neutral, 121(54.75%) agree and 52(23.53%) are strongly agree. With a mean score of 3.87 (~agree) and a standard deviation of 0.93, respondents felt that underutilization of systems and resources is one of the major effects of ICT project delays.

#### 4.6.2 The RII and Ranking of effects of Delay

All contracting parties share the objective to complete a project on schedule, on budget, and with the finest quality possible. Delays almost always result in some type of loss for everyone. The effects on ICT projects that occurred because of project delay ranked and analysed.

The following were the seven effects of delay that were discovered:

1. Schedule Delay
2. Underutilization of Systems and resources
3. Dispute between parties involved
4. Cost Overrun
5. Total Abandonment
6. Arbitration
7. Litigation

**Table 4.12 RII and Ranking of effects of Delay**

| No. | Effects of ICT projects Delay             | RII    | Rank |
|-----|---|--------|------|
| 1   | Schedule Delay                            | 0.8262 | 1    |
| 2   | Underutilization of Systems and resources | 0.7801 | 2    |
| 3   | Dispute between parties involved          | 0.7792 | 3    |
| 4   | Cost Overrun                              | 0.7584 | 4    |
| 5   | Total Abandonment                         | 0.6670 | 5    |
| 6   | Arbitration                               | 0.6588 | 6    |
| 7   | Litigation                                | 0.6344 | 7    |

Source: Own survey, 2022

As shown in the above table that schedule delay ranked the highest with RII of 0.8262, underutilization of systems and resources ranked the next highest with RII of 0.7801 while dispute between parties involved ranked third with RII of 0.7792. The fourth effect of delay with RII of 0.7584 is cost overrun. Total abandonment and arbitration were ranked fifth and

sixth with RII values of 0.6670 and 0.6588 respectively. Finally, litigation of the project was ranked seventh with RII value of 0.6344. Furthermore, these findings are consistent with the literature evaluation, which includes studies by Gebrehiwet and Luo (2017), as well as Danso and Antwi (2012).

#### 4.8 Identifying failed process in the process group

The application and integration of logically categorized project management processes is how project management is performed. To avoid or minimize the effects of project delays, processes that come under each of the five process groups should be applied correctly.

**Table 4.13 Top ten ranking of delay factors and their respective identified failed process, knowledge areas and process group**

| No. | Delay Factor                                 | Identified Failed Process   | Knowledge Area                    | Process Group                             |
|-----|--|---|-----------------------------------|---|
| 1.  | Slow/delayed decision making                 | <ul style="list-style-type: none"> <li>• Manage Stakeholder Engagement</li> <li>• Monitor Stakeholder Engagement</li> </ul>   | Project Stakeholder Management    | Executing, And Monitoring and Controlling |
| 2.  | Poor scope definition/expanded project scope | <ul style="list-style-type: none"> <li>• Plan Scope Management</li> <li>• Define Scope</li> <li>• Project Scope Management</li> <li>• Validate Scope</li> <li>• Control Scope</li> </ul>  | Project Scope Management          | Planning, And Monitoring and Controlling  |
| 3.  | Design Change/ Specification changes         | <ul style="list-style-type: none"> <li>• Plan Schedule Management</li> <li>• Collect Requirements</li> <li>• Develop Schedule</li> <li>• Validate Scope</li> <li>• Control Scope</li> </ul>   | Project Scope Management          | Planning, And Monitoring and Controlling  |
| 4.  | Unrealistic Project timeline                 | <ul style="list-style-type: none"> <li>• Plan Schedule Management</li> <li>• Estimate Activity Duration</li> <li>• Develop Schedule</li> </ul>  | Project Schedule Management       | Planning                                  |
| 5.  | Lack of risk management systems              | <ul style="list-style-type: none"> <li>• Plan Risk Management</li> <li>• Identify Risks</li> <li>• Perform Qualitative Risk Analysis</li> <li>• Perform Quantitative Risk Analysis</li> <li>• Plan Risk Responses</li> <li>• Implement Risk Responses</li> <li>• Monitor Risks</li> </ul> | Project Risk Management           | Planning, And Monitoring and Controlling  |
| 6.  | Expertise related problems                   | <ul style="list-style-type: none"> <li>• Plan Resource Management</li> <li>• Estimate Activity Resources</li> <li>• Acquire Resources</li> <li>• Develop Team Manage Team</li> </ul>  | Project Resource Management       | Planning, And Monitoring and Controlling  |
| 7.  | Ineffective communication                    | <ul style="list-style-type: none"> <li>• Plan Communications Management</li> <li>• Manage Communications</li> <li>• Monitor Communications</li> </ul>   | Project Communications Management | Planning, And Monitoring and Controlling  |

|     |   |   |                                |  |
|-----|---|---|--------------------------------|--|
| 8.  | Inappropriate/ inadequate procurement   | <ul style="list-style-type: none"> <li>• Control Procurement</li> <li>• Conduct Procurements</li> <li>• Control Procurements</li> </ul>   | Project Procurement Management | Planning, And Monitoring and Controlling |
| 9.  | Inadequate planning/ Poor Estimation  | <ul style="list-style-type: none"> <li>• Plan Schedule Management</li> <li>• Define Activities</li> <li>• Sequence Activities</li> <li>• Estimate Activity Durations</li> <li>• Develop Schedule</li> </ul> | Project Schedule Management    | Planning                                 |
| 10. | Vendors' late deliveries and contractors/ subcontractors with insufficient experience | <ul style="list-style-type: none"> <li>• Control Procurement</li> <li>• Conduct Procurements</li> <li>• Control Procurements</li> </ul>   | Project Procurement Management | Planning, And Monitoring and Controlling |

Adopted from Project Management Institute (2017)

In the table above, the top ten ranking delay factors are listed along with the identified failed process, knowledge area, and process groups. Manage stakeholder engagement and monitor stakeholder engagement have been recognized as unsuccessful processes in the executing, and monitoring and controlling process group for sluggish decision making respectively. Poor scope definition/ expanded project scope, plan scope management, define scope, and project scope management are marked as failed planning process group processes, while validate scope and control scope are identified as failed monitoring and controlling process group processes. When we see the case of design change/ specification changes, it is similar to poor scope definition/ expanded project scope delay factor, the processes failed are under planning, and monitoring and controlling process group. Those listed under the planning process group are the failing processes that are contributed for unrealistic project timelines. For lack of risk management systems delay factor, the processes that are failed are planning, and monitoring and controlling process group. In general, we can deduce from the table that the most common process group is planning, under which failing processes lead to project delays, with 9 delay causes out of 10. It is very closely followed by the monitoring and controlling process group, which accounts for eight out of ten delays. We may deduce from the above explanation that the most significant pieces of the process group to avoid or minimize ICT project delays in financial institutions are planning, and monitoring and control.

# **CHAPTER FIVE**

## **SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION**

This final chapter summarizes the findings, draws conclusions, and makes recommendations based on the findings of the assessment to reduce schedule delays and better understand the root causes of ICT projects delay in financial institutions.

### **5.1 Summary of Findings**

The majority of the participants in this study believe that the following causes of delay related to project management knowledge area for ICT projects in financial institutions. Based on their respective importance index ranking; Project delay causes related to project scope management (RII: 0.81946), project delay causes related to project risk management (RII: 0.78914), project delay causes related to project communications management (RII: 0.78552), project delay causes related to project schedule management (RII: 0.78341), Project delay causes related to project stakeholder management (RII: 0.78281), project delay causes related to project procurement management (RII: 0.78235), and project delay causes related to project resource management (RII: 0.72670) factor are the causes of project delay, which are listed in descending order, have a large contribution to the project's schedule overrun.

Furthermore, the project delay causes are analysed and rated based on the responses of the respondents from the standpoint of each delay factor that falls under each knowledge area. The causes of project delay factors are listed in descending order as follows: slow/delayed decision making (RII: 0.8271), poor scope definition/ expanded project scope (RII: 0.8235), design/ specification changes (0.8154), unrealistic project timeline (RII; 0.8072), lack of risk management systems (RII: 0.7891), expertise related issues (RII: 0.7855), ineffective communication (RII: 0.7855), inappropriate/inadequate procurement (RII: 0.7855), inadequate planning/poor estimation (RII: 0.7801), vendors' late deliveries and contractors/subcontractors with insufficient experience (RII: 0.7792), lack of user involvement and contributions (RII: 0.7729), over-ambitious estimates/incorrect task assessment (RII: 0.7629), lack of senior management support (RII: 0.7484) and Resource Constraints or lack of resources (RII: 0.7267).

The effects of ICT project delays are examined and ranked. The following are effects of ICT project delay identified and listed in descending order as follows: schedule delay (RII: 0.8262), underutilization of systems and resources (RII: 0.7801), dispute between parties involved (RII: 0.7792), cost overrun (RII: 0.7584), total abandonment (RII: 0.6670), arbitration (RII: 0.6588) and litigation (RII: 0.6344).

Finally, the most commonly failed processes that could be the reasons of project delays, according to the research, are those that are found under planning and monitoring, and control process groups.

## **5.2 Conclusion**

The particular goals of this study is to identify the factors that cause time overruns and effects of delay in ICT projects in financial institutions, determine the effect of time overruns on ICT projects, and make recommendations for overcoming known delay causes. Questionnaires were used to collect data. Fourteen significant sources of schedule delays have been identified, and seven delay effects have been discovered.

The following conclusions about the time overrun and the effects of schedule delay were drawn based on the research findings and data analysis.

The study's first particular objective is to identify the sources that cause time overruns. The result showed that, out of 14 factors identified as project delay causes are found out by the study as high contributor for ICT project delay in financial institutions. The majority of the factors identified as causes of ICT project time overruns are more or less the same as those reported in the literature, according to the study's findings.

The second particular goal of the study is to determine the effect of time overruns on IT projects. Time overruns are the most common cause of IT project failure. Project delay has a tremendous effect on the ICT projects across all sectors. ICT projects frequently overrun, resulting in dispute between parties involved, underutilization of systems and resources, cost overrun, total abandonment, and causes other related problems.

Consequently, knowing what causes project delays will help to provide appropriate solutions and drastically reduce the magnitude of the delay if completely avoiding schedule overrun is not achievable.

Understanding which process group has a flaw can put the organization one step closer to preventing or minimizing the project delay's effect. As a result, we can conclude that strengthening the processes that are currently being planned, as well as monitoring and controlling process groups. It will help to mitigate the negative effects of project delays. In general, the purpose of this research paper was to determine the causes and consequences of ICT project delays in financial institutions, and it was discovered that all of the delay factors identified in the literature review contributed to project delays, regardless of their level of influence.

This illustrates that, while generalizing from this study is difficult, most of the delay factors are common to most ICT projects and by paying much attention to them, future projects will be able stick to their initial time frame for a better output.

### **5.3 Recommendation**

According to the conclusions of this study, there are various organizational challenges that must be addressed in order to properly implement ICT projects. ICT projects will be meaningful when completed with good planning and scheduling, within the assigned budget and defined quality, within the specified timeline, and to the satisfaction of all parties involved. At times, delays are inevitable in projects, but they can be prevented or minimized when their causes are identified and assessed correctly. The following suggestions can be recommended as approaches to minimize and control delay in ICT projects based on the above stated conclusions and findings of this study.

- The organizations should cultivate the planning and scoping abilities of project members. Planning and scoping should be done as per PMI guidelines.
- To ensure that personnel are skilful and qualified, create a department for education and training. Organizations should invest in information system certification and training for their technical staff.
- To ensure that the contractor has the necessary financial and management capabilities to complete the task on time, the project awarding mechanism should be revised. In addition the organization should have to develop and execute proper procurement procedure.
- People, equipment, software, hardware and any other components required to run a project should be provided adequately throughout the project life time.

- Processes that are under planning, as well as monitoring and controlling process groups should have given enough attention during the project time.
- User involvement and senior management support should receive a lot of attention throughout the project's life cycle.
- Organization should generate a list of options, prioritize alternatives, set a deadline for the decision, discuss alternatives and reach a decision as soon as possible.
- Proper risk management system should be defined and applied by the organization. Risk should be identified, described, estimated, prioritized, use the right techniques to handle risk and, create a risk registry and list each risk.

#### **5.4 Suggestion for Future Research**

It is difficult to draw broad conclusions from this study because it didn't cover every institute and only took a few samples compared to actual data. It is conceivable to conduct the study on a larger scale in order to generalize the findings to all financial institutions and to see the study result consistency with ICT projects in all sectors in order to reduce time overruns and alleviate the effect. Furthermore, it would be ideal to undertake research that links delays to various forms of project management knowledge.

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# ANNEXES

## APPEDIX I

**ADDIS ABABA UNIVERSITY  
SCHOOL OF COMMERCE  
DEPARTMENT OF PROJECT MANAGEMENT**



### QUESTIONNAIRE FOR RESEARCH THESIS

Dear Respondents,

I am conducting research on An Assessment on Causes and effects of schedule delay in ICT projects: A case of financial institutions in Ethiopia in a partial fulfilment of Master's Degree in Project Management at Addis Ababa University, School of Commerce. I respectfully request your aid in completing the questionnaire so that this study can be completed successfully. The data you provide will be utilized solely for this study, and the objective of this questionnaire is exclusively academic. The information gathered is anonymous and will remain strictly confidential. I'd also like to remind you that the responses you provide will be kept private, and that you should not include your identity in your responses. I would like to convey my heartfelt thanks in advance for taking the time to fill out this survey.

Yilikal Eshetu

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Addis Ababa

#### **PART I: Demographic Information**

1. Name of Organization: \_\_\_\_\_
2. Company Type: \_\_\_\_\_
3. Gender?  
 Male

- Female
4. Age?
- 18-24
  - 25-34
  - 34-45
  - 45-54
  - 65 or over
5. Educational level?
- Diploma
  - Degree
  - Masters
  - PhD
6. Position in the organization?
- Junior Officer
  - Officer
  - Senior Officer
  - Team Manager
- If other specify \_\_\_\_\_
7. Position in the Project Office?
- Project manager
  - Project team member
  - Supervisor
  - Consultant
- If other specify \_\_\_\_\_
8. Year of experience in the organization?
- Below 5
  - 6-10
  - 11-15
  - 16 and above
9. Year of experience in working on projects?
- Below 1
  - 2-3
  - 4-5
  - Above 5
10. Have you taken project related training provided by any institutions?
- Yes
  - No
- If, yes please specify the type of training that you have received-----
11. Average time spent on different projects \_\_\_\_\_

12. Average team size on different projects \_\_\_\_\_

**PART II: Causes of schedule delay in ICT projects**

Please use the following rating system to indicate your level of agreement with the statements by selecting the required checkboxes. You can utilize the remark column to add anything that is connected to each factor.

N.I – Not Important      M.I – Moderately Important    L.I – Less Important

V.I – Very Important      E.I – Extremely Important

To what extent do you believe the following factors are responsible to ICT projects schedule delay at your organization?

| No  | Factors   | N.I | L.I | M.I | V.I | E.I | Remark |
|-----|---|-----|-----|-----|-----|-----|--------|
| I   | <b>Project delay causes related to project Scope Management</b>                       |     |     |     |     |     |        |
| 1.  | Poor scope definition/expanded project scope  |     |     |     |     |     |        |
| 2.  | Design Change/Specification changes   |     |     |     |     |     |        |
|     |   |     |     |     |     |     |        |
| II  | <b>Project delay causes related to project Schedule Management</b>                    |     |     |     |     |     |        |
| 1.  | Unrealistic Project timeline  |     |     |     |     |     |        |
| 2.  | inadequate planning/Poor Estimation   |     |     |     |     |     |        |
| 3.  | Over-ambitious estimates/ incorrect task assessment                                   |     |     |     |     |     |        |
|     |   |     |     |     |     |     |        |
| III | <b>Project delay causes related to project Resource Management</b>                    |     |     |     |     |     |        |
| 1.  | Resource Constraints  |     |     |     |     |     |        |
| 2.  | Expertise related issues  |     |     |     |     |     |        |
|     |   |     |     |     |     |     |        |
| IV  | <b>Project delay causes related to project Communications Management</b>              |     |     |     |     |     |        |
| 1.  | Ineffective communication   |     |     |     |     |     |        |
|     |   |     |     |     |     |     |        |
| V   | <b>Project delay causes related to project Risk Management</b>                        |     |     |     |     |     |        |
| 1.  | lack of risk management systems   |     |     |     |     |     |        |
|     |   |     |     |     |     |     |        |
| VI  | <b>Project delay causes related to project Procurement Management</b>                 |     |     |     |     |     |        |
| 1.  | Inappropriate/inadequate procurement  |     |     |     |     |     |        |
| 2.  | Vendors' late deliveries and contractors/subcontractors with insufficient experience. |     |     |     |     |     |        |
|     |   |     |     |     |     |     |        |

|     |   |  |  |  |  |  |  |
|-----|---|--|--|--|--|--|--|
| VII | <b>Project delay causes related to project Stakeholder Management</b> |  |  |  |  |  |  |
| 1.  | Lack of senior management support                                     |  |  |  |  |  |  |
| 2.  | delayed decision making   |  |  |  |  |  |  |
| 3.  | lack of user involvement and contributions                            |  |  |  |  |  |  |

If you've had any additional challenges with project time overruns, please share them here.

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**Part III Impacts or effects of schedule delay**

Please rank impacts or effects of delay below in what you consider to be the most influential effect of delay.

N.I – Not Important      M.I – Moderately Important      L.I – Less Important

V.I – Very Important      E.I – Extremely Important

|    | <b>Impacts or effects of Schedule delay</b> | <b>N.I</b> | <b>L.I</b> | <b>M.I</b> | <b>V.I</b> | <b>E.I</b> | <b>Remark</b> |
|----|---|------------|------------|------------|------------|------------|---------------|
| 1. | Cost Overrun                                |            |            |            |            |            |               |
| 2. | Schedule Delay                              |            |            |            |            |            |               |
| 3. | Dispute between parties involved            |            |            |            |            |            |               |
| 4. | Arbitration and court case                  |            |            |            |            |            |               |
| 5. | Litigation                                  |            |            |            |            |            |               |
| 6. | Abandonment                                 |            |            |            |            |            |               |
| 7. | Wastage and underutilization of resources   |            |            |            |            |            |               |

If you've had any additional impacts or effects of delay, please share them here.