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ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
COLLEGE OF BUSINESS AND ECONOMICS
DEPARTMENT OF PROJECT MANAGEMENT

Causes of Project Delays and Their Impact on Project Success: A Case Study of Noah Real Estate in Addis Ababa, Ethiopia

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Causes of Project delays and its impact on Project Success: In the case of Noah Real Estate in Addis Ababa, Ethiopia

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CERTIFICATE OF APPROVAL

This is to certify that the thesis prepared by **Ms. Lielt Tsegaye**, entitled "Causes of Project delays and its impact on Project Success: In the case of Noah Real Estate in Addis Ababa, Ethiopia and submitted in partial fulfillment of the requirements for the Degree of Masters in Project Management with the regulations of the University and meets the accepted standards with respect to originality and quality.

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DECLARATION

I, the undersigned, declare that this is my original work, prepared under the guidance of D.r Zegeye Muluye (Prof.). All sources of material used are duly acknowledged. I further confirmed that the thesis has not been submitted to any other higher learning institution for the purpose of earning any degree.

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ABBREVIATION

IV - Independent Variable
DV - Dependent Variable
PLAN- Planning Issues
PS - Project Success
RES - Resource Issues
SPSS - Statistical Package for the Social Sciences

ABSTRACT

Even though planning and resource related factors is crucial in the construction project, in the construction projects at Noah Real Estate, there has been instances of delay, cost overruns and challenges to the achievement of the project objectives, which show some performance challenge in project management practice. While there have been some studies that analyze the factors that affect project success for construction projects, empirical evidence is limited in regards to the specific effect of planning and resource factors on project success in the context of Noah Real Estate. For this reason, this study was formulated to fill this empirical gap or address the identified empirical gap and to investigate the relationship between planning and resource related factors to project success and to give evidence-based recommendations for the improvement of project performance. This study aimed to explore the effect of planning and resource factors on project success. The main aim of the research was to investigate the link between planning practices and the successful implementation of projects in terms of resources. The research used was quantitative research method, and the data obtained in this study was the data of respondents who were 102 respondents used in the data collection process. Data collected was converted and analyzed using SPSS software with descriptive, Pearson correlation, multiple regression and ANOVA analysis. The results of the correlation analysis revealed that both planning and resource factors have positive and statistically significant relationships with project success. Planning was moderately positively correlated with project success ($r = 0.521$, $p < 0.01$), so that better practices in planning are related to increased project success. Likewise, resource factors showed a moderate positive correlation with project success ($r = 0.467$, $p < 0.01$), implying that improved resource management is conducive to project success. The result of regression analysis revealed that the model explained 28% of the variations in project success ($R^2 = 0.280$, Adjusted $R^2 = 0.265$) which shows that the variables used in the model has a moderate ability to explain the variations in project success and this result is acceptable for construction sectors. The ANOVA result also shows that the overall model is statistically significant ($F = 19.222$, $p < 0.001$), which indicates that the planning and resource factors together significantly affect project success. The planning had positive and statistically significant influence on the success of the project ($B = 0.496$, $p = 0.005$) according to the coefficient's analysis. This translates to better planning resulting in improved project success. However, the effect of resource factors was positive but not statistically significant ($B = 0.133$, $p = 0.297$), meaning that the resources contribute positively to the project success, but do not have a strong direct impact on project success when planning is part of the model. This underlines the fact that, project success is more about planning than resource availability. The findings indicate that planning factors have a significant positive influence on project success, whereas resource factors show a positive but statistically insignificant relationship with project success. This suggests that effective planning plays a more influential role in enhancing project success within the study context. Therefore, organizations should strengthen project planning practices while ensuring the efficient utilization of resources. Integrating effective planning with sound resource management can contribute to improved project performance.

Keywords: Project Success, Planning, Resource Factors, Regression Analysis, SPSS.

CHAPTER 1

INTRODUCTION

1.1 Background of the study

Globally delay is a common problem in construction projects in all countries of the world, both developed and developing countries. Delays in construction projects can lead to major effects on the length of time required for projects to finish, costs, quality, satisfaction of the stakeholders, and project success. Consequently, there have been many studies worldwide to determine the primary factors contributing to delays and potential solutions to these delays. The delay in construction has been identified in several international studies, as being caused by various factors such as planning and scheduling, resource and skill, client, contractor, consultant, resources and external conditions. Mohammed A. Assaf and Sadi A. Al-Hejji (2006) conducted a study in Saudi Arabia where they found 73 causes for construction delays, out of which payment delay, design changes, and inability of the contractors were the most important causes. The results of their research highlighted that financial and managerial issues have a significant impact on project completion. In Malaysia, M. Sambasivan and Yau Wen Soon (2007) have also identified that the most significant factors causing project delays were related to the contractors, including poor site management, inadequate planning, and lack of experience. They also found that delays have a negative impact on productivity, on project costs and on client satisfaction. In a study done in Jordan, Ayman Odeh and Hussein Battaineh (2001) reported that owner interference, design modification, delayed decision making and delayed approvals are the top four factors of delay in construction projects. The study emphasized the need for proper coordination of stakeholders in the implementation of the project. In addition, Yaw Frimpong et al. (2003) carried out research in Ghana which revealed that a major cause of delays was monthly payment problems that occurred in about 87% of the projects studied. Poor financial control and delayed payment is a major constraint for the project development, the research highlighted. Research from around the world shows that construction project delays are multi-dimensional issues, with a matrix of contractor related, client related, consultant related, resource related and external factors. While these studies offer a wealth of information on causes and effects of delays, few addressed public infrastructure projects. This has resulted in little attention being paid to delays in the development of private real estate projects, especially in the developing world. In Ethiopia Context Construction Project Delays can be to the demand for infrastructure development, population growth, and urbanization, the construction industry in Ethiopia has experienced rapid growth. The sector contributes greatly to the country's economic development as an employer, developer of housing and infrastructure provider. While these gains have occurred, however, construction project delays are still one of the largest issues impacting project success and industry overall performance.

According to the Gambella Zone Finance and Economic Development Office (GZFED, 2009 E.C.) Statistical Abstract, only 15% of construction projects in Gambella Zone were completed on time. This finding indicates that project delays are a significant challenge in the study area and is consistent with previous studies reporting delays in construction projects across Ethiopia. The consequences of a delay are frequently cost overruns, loss of quality, conflict between stakeholders and client dissatisfaction.

Various reasons have been identified as causes of construction project delays and these were found in several studies that have been conducted in Ethiopia. For instance, in Tigray Region, financial issues, delayed payments, lack of site management were identified as major factors contributing to project delays by Gidey Gebremedhin, Jebaseelan Samuel, and Gebremedhin Tesfay (2018). They concluded the significance of sound financial control and the proper control of the contractors. In a similar study, Woldesellassie (2019) found that the most frequently occurring causes of project delays in housing projects in Addis Ababa are design changes, scope creep and permit approval delays. The study emphasized the importance of the poor planning and the inefficiency in the regulatory processes that affect the implementation of projects. In addition, Desta (2016) analyzed risks at the Ethiopian construction projects and found that foreign currency shortage, inflation and delayed payments were among the top risks affecting the performance of the projects. The study showed that the economic instability and financial constraints have a significant effect in the construction activities in Ethiopia. While the problem of delays in construction projects became a topic of interest in Ethiopia, literature on the subject has been limited to public construction projects and public housing projects. As a result, few private projects in real estate development have received attention, leaving a research gap which the present study aims to fill. The Housing Problem in Addis Ababa, Ethiopia. The city of Addis Ababa is experiencing a critical shortage of housing in the wake of urbanization, population growth and rising demand for residential housing. The supply of housing in the city is still inadequate in terms of both quantity and quality, to meet the needs of the people. UN-Habitat (2010) states the current housing stock in Addis Ababa is insufficient to accommodate its ever-expanding urban population and that the city's rate of urban growth will keep adding to the housing gap. Housing is now one of the major social and economic issues facing people from various income levels in the city. Nesru Dusso (2020) stated that the housing shortage is one of the most significant social and political issues in Addis Ababa. Despite the desire to own residential properties, many of the urbanites live in crowded situation, in temporary shelter or in rented private houses. Ethiopia's housing needs are growing and construction projects and private real estate developments have skyrocketed. The private sector has begun to expand its foray into the housing sector, which has helped ease the housing deficit and offered housing units for urban dwellers. The Ethiopian Investment Agency (EIA) statistics stated that the Ethiopian real estate sector consists of around one hundred private real estate companies. Although private real estate developers have become more involved in the construction of real estate housing, the demand for completed real estate housing is not sufficiently matched with the supply. Most projects suffer from delay, cost overspending, quality issues and a lack of contractual deliverables. Consequently, there is a growing number of complaints from customers for late project delivery and construction quality. The issues mentioned here suggest that construction project delays are still a great problem with regard to the effectiveness of private real estate development in Addis Ababa.

1.2 Statement of the Problem

Delays in construction projects are one of the main challenges that hinder the successful completion of construction projects all over the world. The causes of delays have been investigated in various countries and found to be many, such as poor project planning and scheduling, insufficient resource provisioning, financial constraints, contractor inefficiency, design change, communication issues and external environmental issues

(Assaf & Al-Hejji, 2006; Soon & Sambasivan, 2007; Aziz, 2013). These delays tend to lead to time over-run, cost escalation, quality issues, stakeholder dissatisfaction and loss of project profitability (Aibinu & Jagboro, 2002). Project delays, therefore, have become one of the vital concerns that negatively influence project success and organizational competitiveness in the construction industry. The construction industry is an important contributor to the economic growth and urbanization in Ethiopia. But construction project delays are a common issue for both public and private projects. Earlier research on the subject in Ethiopia has revealed that lack of plan, lack of resources, financial constraints, contractor-related issues and regulatory issues are some of the major reasons for delays (Mengesha et al., 2014; Fenta, 2018; Tadesse, 2021). Despite these contributions, the majority of the studies have been on public infrastructure and public housing developments, and only a few have examined private real estate developments. Moreover, a lot of past research has used descriptive analysis and only focused on finding causes of delays and not on the effects of delays on project success. Therefore, little empirical evidence is available on the relationship between delay factors and project success factors like time, cost, satisfaction of stakeholders, profitability and company reputation in the Ethiopian private real estate sector (PMI, 2021). The issue is more pronounced at Noah Real Estate one of the private real estate developers in Addis Ababa. Delays in the residential housing development project at Noah Real Estate's Figa project site have become a significant concern, affecting project performance and timely completion. Such delays have led to schedule overruns, rising construction costs because of inflation and escalation in material prices, quality issues, dissatisfaction among stakeholders and reputation issues. While these problems are apparent, there is limited quantitative evidence of how much planning and scheduling problems, resource-related constraints and other delay factors affect project success at the Figa site. Furthermore, the relative importance of which factors determine the project performance outcomes is not clear. Hence, a detailed study with a focus on the significant causes of delays in construction projects and their effect on the success of real estate projects is needed, especially in the field of private real estate projects. Therefore, this study aims to address this gap by investigating the relationship between project delay factors and project success from a quantitative multi-stakeholder perspective, using Noah Real Estate's Figa project site as the case study. The results will provide empirical evidence that can help to improve project management practices, facilitate better coordination amongst stakeholders and lead to the successful implementation of private real estate projects in Addis Ababa.

1.3 Research questions

Aibinu and Jagboro (2002) and Frimpong et al. (2003) have identified some of the main problems affecting construction projects in terms of planning and scheduling, resource shortage and skills of the workforce. Alinaitwe et al. (2013) and PMI (2021) have further found some of the underlying reasons for construction project delays and poor project performance to include planning and scheduling issues, resources shortages and inadequate skills of the workforce. Moreover, project management literature has pointed out that project's time performance, cost performance, stakeholder satisfaction, profitability, objective achievement and organizational reputation are critical factors for project success, that can be attributed to effective planning and resource management (Atkinson, 1999; Kerzner, 2017). The research questions are formulated based on the theoretical and empirical results obtained.

1.3.1 Main research questions

What is the effect of project planning practices and resource factors on project success at Noah Real Estate.

1.3.2 Specific Research Questions

1. What is the effect of project planning and scheduling practice on project success at Noah Real Estate?
2. What is the effect of resource and skill factors on project success at Noah Real Estate?
3. What is the combined effect of planning and scheduling factors and resource and skill factors on project success at Noah Real Estate?

1.4 Research objectives

1.4.1 General and specific

The general objective of this research is to examine the effect of planning and resource factors on project success ate Noah Real Estate.

1.4.2 Specific Objective

From those mentioned research questions this research will have the following specific objectives.

1. To examine the effect of project planning and scheduling practices on project success at Noah Real Estate.

2. To assess the effect of resource and skill factors on project success at Noah Real Estate.

3. To determine the combined effect of planning and resource factors on project success at Noah Real Estate.

1.5 Significance of the study

This study is significant to Noah Real Estate because it identifies the key factors causing project delays and their impact on project success. The findings provide evidence that can help the company improve project planning, resource management, scheduling, and implementation, thereby reducing delays and enhancing project performance. The study also supports better decision-making, improves customer satisfaction and stakeholder confidence, strengthens the company's reputation, and enhances its competitiveness in the real estate sector.

1.6 Scope of the study

This study was geographically limited to Addis Ababa, Ethiopia where Noah Real Estate functions its construction projects. This study mainly focuses on Noah Real Estate as a single case study to examine the effects of construction project delays within

the company's real estate developments. This study involved construction projects like residential and commercial. The respondents which are involved within this research study are contractors such as site engineers, project managers, and foremen; consultants such as design consultant, supervision consultant, project management consultants; and client representatives from Noah Real Estate staff. However, suppliers, subcontractors, government officials and buyers were excluded from the study as the study mainly focuses on primary project stakeholders directly involved in project implementation and management. The research examines two categories of independent variables that affect project success, namely planning and scheduling related factors (PLN), resource and skill related issues (RES). Variables such as force majeure events, fraud, and corruption were excluded from this study due to their complexity and sensitivity. The dependent variable of the research was project success which is measured in terms of time performance, cost performance, quality achievement, reputation and client satisfaction. This study focuses on construction projects completed or implemented within the last five years. Methodologically the study employed a quantitative research approach using a cross sectional research design. Data analysis was conducted using regression based statistical techniques to examine the relationship between the independent and dependent variable which is project success in real estate construction project.

1.7 Limitations of the study

The study is subject to the following limitations:
Limited access to data: Those private real estate companies may not be willing to share some sensitive internal documents and any related data as it might be confidential.
Respondent unwillingness and bias in respondent: Some of the workers with in the sector might not be speaking openly about the reason for the delays especially those one that involves mismanagement, corruption, and other issues. And some of those who give information might be biased when giving the information which might have effects on the accuracy of the research data gathering.
Time Constrain: The research might face some shortages of time when collecting and checking every ongoing project.
Limited coverage of projects: This research will be conducted on those selected private real estate projects.
This study has some limitation as the data relied on self-respond data collected from respondents which might create some bias from respondents. The study mainly focuses on single real estate sector namely Noah Real Estate which limits the findings to other real estate developers and construction companies. The sample size used for this study to gather data from is 102 respondents. Geographically, the research was limited to only Addis Ababa which may restrict the applicability of the findings to other regions with different construction environment as well as market conditions. The study will recommend replication in other geographic areas. The study mainly focuses the period with in the past five years and the finding may not represent future construction conditions. Therefore, periodic replication of the study period is recommended. The economic condition of Ethiopia during the study period is facing high inflation and market instability this may limit the application of the findings to more economically stable countries and construction market. Overall the use of a single organization case study means that the findings are specific to Noah Real Estate and may not fully represent the wider construction industry. The reliance on self-reported data creates a possibility of response bias, while the unexpected positive human resource coefficient

indicates the need for further investigation in future research. Additionally, end users and property buyers were excluded from the study, meaning that client satisfaction was evaluated primarily from the developer's perspective rather than directly from final customers.

1.8 Organization of the study

This research paper is organized in to five chapters. Chapter one deals with background of the study, problem statement, research question, objective of the research, significance of the study, scope of the study, limitation of the study, and organization of the research. The second chapter reviews existing literature including theoretical background, reviewing empirical studies, and the study conceptual framework. The third chapter presents the thesis methodology which includes the research approach and data collection. The fourth chapter analysis and present the research findings which were obtained through methodology and how these findings contribute to the research main purpose by answering the research questions. The fifth chapter focus on the research summery, conclusion, and recommendation based on the research findings. Finally, at the end of the thesis paper reference will be included.

1.9 Definition of Key Terms

Project Delay: This is unplanned extension of project period or duration beyond the contracted completion date (Assaf & Al-Hejji, 2006)
Project Success: Project success is defined as a degree to which a project achieves its objectives in terms of time, cost, quality, and stakeholder's satisfaction (Chan & Chan, 2004).
PLAN (Planning Related Issues): Refers to problem within project planning and scheduling such as unrealistic timeline, poor coordination, and weak work plan preparation. It is measured using the average score of six Likert scale items (pln_avg) in this study.
RES (Resource Issues): Refers to problems related to availability and management of construction resources such as material, equipment, delivery timeline, and labor allocation. It is measured using the average score of six Likert scale items (Res_avg) in this study.
PS (Project Success): This refers to overall success of project in terms of time, cost, quality, stakeholder's satisfaction, objective achieved, and reputation. It is measured using the average score of six Likert scale items (PS_avg) in this study.
Contractor: Individual or organization hired to execute construction work (site engineers, PMs, foremen).
Consultant: Individual or organization providing design, supervision, or PMC services

CHAPTER TWO

LITRATURE REVIEW

2. THEORETICAL OVERVIEW

This part of the paper deals with a theoretical approach to investigating the meaning, causes, and implications of construction project delays. In addition, relevant studies in Ethiopia and other developing countries and their experience on the causes of construction delays are considered.

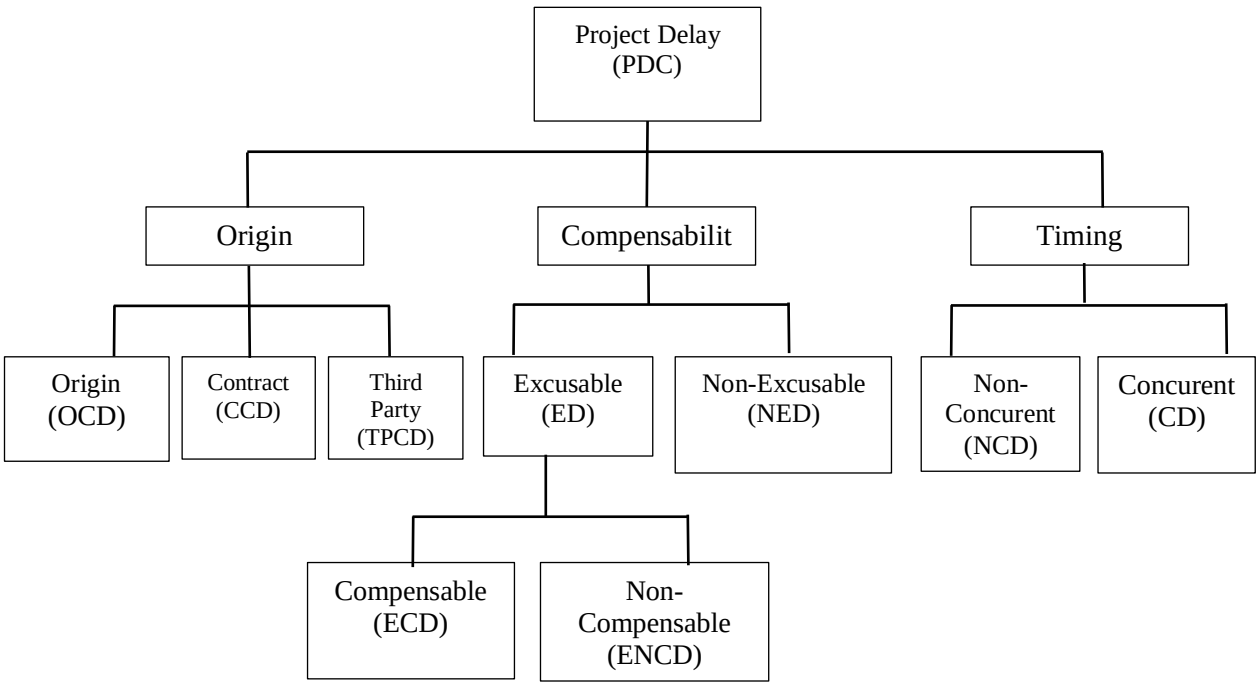
2.1 CONSTRUCTION PROJECT

Many definitions have been developed to explain the meaning of a project. project is defined as “A project is a temporary endeavor undertaken to create a unique product, service, or result” (Görög, 2013). Kezner (2000), defined project as any series of activities and tasks that has a specific objective to be completed within certain specification, defined start and dates, funding limits and consumes resources. A project is one-time activity, which is unique, and involve multitask activities which has a defined start point, defined ending point, cleared defined scope of work, a budget, and a temporary team to do the tasks. Furthermore, project need capital and continuous commitments which will results to facing conflicts. A project is said to be completed when its goal and objectives are accomplished to stakeholder’s satisfaction and when objectives are attained (Gorog, 2013). as construction project are complex they are subjected to influence of highly variable and unpredictable factors. No two-construction project are same, each project is unique, and no two job are the same (Oden, 2002). kerzner (2009) successful project management can be defined as having achieved the project objectives, with in the given time, cost, and desired performance, while using the assigned resource effectively and efficiently. Project management is the application of knowledge, skill, tools, techniques to the project activities to meet the project requirements. This is accomplished with the use of project initiation, project planning, project execution, project monitoring, and project controlling and closure process (PMI, 2013). these five processes are organized in to ten knowledge area; these are Project Integration Management, Project Scope Management, Project Time Management, Project Quality Management, Project Human Resource Management, Project Communication Management, Project Risk Management, Project Procurement Management and Project Stakeholder Management (PMI, 2013). In addition, project managers use different tools to increase the project success, these are checklist, specific software, temples, and other techniques. Despite doing all this project requires dedication and active participation of different parties which are involved with in the project. This part of the paper deals with a theoretical approach to investigating the meaning, causes, and implications of construction project delays. In addition, relevant studies in Ethiopia and other developing countries and their experience on the causes of construction delays are considered.

2.2 Definition of Delays

Delay of project implementation is defined as the late completion of work compared to the planned schedule (Bentator&Thumann, 2003). Delay in any project can be defined as an act or event which extends required time to perform or complete work of the contract manifests itself as additional days of work stated by Zack (2003). Assaf and Al-Hejji (2006) defined construction delay as the time overrun either beyond completion date specified in a contract, or beyond the date that the parties agreed upon or delivery of a project (El-Razek1 & Mobarak, 2008). Similarly, according Ramanathanet al. (2012), Thomran and Ahmed (2020), in construction industry delay can be defined as the additional time consumed to complete a particular project beyond the originally specified contractual date agreed by the parties to deliver the project (Amarasinghe, 2016). Aibinu and Jagboro (2002) defined the delays in construction as a situation where non-completion of a project within the original or stipulated or agreed contract period. Delays in real estate construction can be caused by various factors, such as unforeseen site conditions, design changes, labor shortage, funding issues,

material shortages, weather conditions, legal disputes, and poor project management Abebe, T. (2023). Fung I. W. H., L. T. (2006) define delay as the slowing down of work without stopping construction entirely and that can lead to time overrun either beyond the contract date or beyond the date that the parties have agreed upon for the delivery of the project. Terry Williams (2001) revealed that there are three basic ways to group delays which are excusable delay with compensation, excusable delay without compensation and non-excusable delay. Therefore, Trauner et al, 2009 has specified that delay might be groups in four main groups which are critical or non-critical, excusable or non-excusable, compensable or non-compensable, concurrent or non-concurrent delays can be classified by their origin (Caused Delays or CD), compensability (Excusable Delays / ED and Non-Excusable Delays / NED), and timing (Non-Concurrent Delays / NCD and Concurrent Delays / CD).



Excusable and Non-excusable delays: All delays are either considered as excusable or non-excusable. According to Callahan et al, (1992) and Trauner et al, (2009), it depends on the clauses in the contract. Excusable delays are further subdivided into two categories. They are Non-Compensable Delays and Compensable Delays. An excusable delay is delay that is due to an unforeseeable event beyond the contractor's or the subcontractor's control for instance general labor strikes, fires, flood, acts of god, owner directed changes, error and omissions in the plans and specifications, differing site conditions or concealed conditions, unusually severe weather, intervention by outside agencies, lack of action by government bodies (building inspection). In addition to that, Levy (2006) adds two more excusable delays to the above list as illness or death of one or more of the contractors, transportation delays over which the contractor has no control. In another study, Kelleher, (2005) added two more conditions which are epidemic, quarantine restrictions.

Non-excusable delays are events that are within the contractor's control or that are foreseeable. Mubarak, (2005), defines non-excusable delays as "delays that are either

caused by the contractor or not caused by the contractor but should have been foreseen by the contractor". Furthermore, Trauner et el, (2009), point out some examples which are late performance of sub-contractors, untimely performance by suppliers, faulty workmanship by the contractor or sub-contractors, a project specific labor strike caused by either by the contractor or unwillingness to meet with labor representative or by unfair labor practice. Moreover Mubarak, (2005), added some more examples as contractor cash flow problem, accidents on the site caused by contractor's negligence or lack of preparations, late delivery of the contractor's furnished materials and equipment. Obviously, the distinction between these two is significant in that it determines which party is liable for the delay. It dictates whether or not a contractor would be entitled to a time extension and possible if the contractor would be entitled to compensation for that time extension.

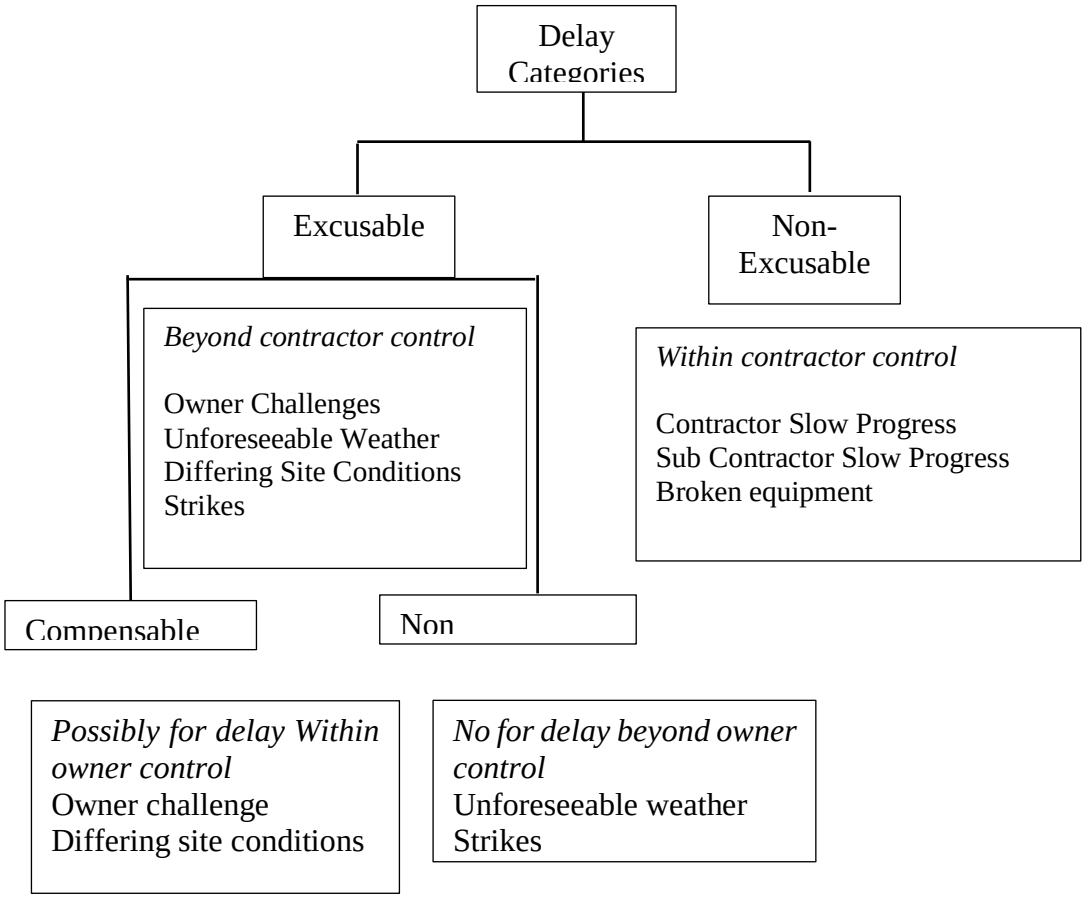


Figure 2.2.2 Project delay categories

Critical and non-critical Delays: Several studies classify delays only into three groups as excusable and non-excusable, compensable and non-compensable, and concurrent and non-concurrent. Therefore, certain authors (Trauner et al, 2009; Callahan et al, 1992) added one more category which is critical and non-critical delays. According to them, delays that affect the project completion, or in some cases a milestone date, are considered as critical delays, and delays that do not affect the project completion, or a milestone date, are non-critical delays. Trauner et al, (2009), also notified that the issue of critical delays emerges from the Critical Path Method (CPM) scheduling. The determining which activities truly control the project completion date depends on the following criteria which are the project itself, the contractor's plan and schedule

(particularly the critical path), the requirements of the contract for sequence and phasing, the physical constraint of the project.

Compensable and Non compensable Delays: There is an invisible delay if the contractor is entitled to financial recovery in the form of direct and indirect time related costs resulting from the employer's risk event (Caletka, 2008), inadequate drawings and specifications are the most prevalent source of compensable delay, but compensable delays may also result from the owner's inability to respond quickly to demands for details or shop drawings, owner's changes in design or materials, and owner's hand, a non-compensable delay means that although an excusable delay may have occurred, the contractor is not entitled to any added compensation resulting from the excusable delay. Therefore, the issue of whether a delay should be covered must be resolved. A non-excusable delay also would not entitle you to extra credit or a time extension. Whether or not a delay is compensable is largely decided by the contract terms. In most cases, a contractor does not receive any additional money but maybe allowed a time extension (Al Gahtani,2007).

Concurrent or parallel Delay: According to Callahan et al, (1992), concurrent delay is more than one delay contributed to the project delay, not that the delay necessarily occurred at the same time. Mubarak, (2005), states that a concurrent delay indicates a combination of two or more independent causes of delay occurring within the same time. For Levy, (2006), it is known as overlapping delays. Furthermore Mark Boe, P.E. stated in the Capital Project Management, Inc that concurrent delay occurs when a contractor and owner have both caused independent critical path delays, delays that affect the completion date of a project during the same time approximate time period. Concurrent delay refers to the complex situation where more than one event occurs at the same time, but where not all of those events enable the contractor to claim an extension of time or to claim loss and expense.

2.3 Causes of Delay

Construction project delay have been extensively studied worldwide due to their significant impact on project performance and success. Delay can be defined as the unplanned extension of duration of project beyond the agreed contractual date. According to Assaf and Al Heji (2006), construction delay occurs when project activities are not completed within the specified timeframe that was within the established contract agreement. Construction delay are costly because they increase labor and equipment expenses, increase project cost, creates disputes among stakeholders, and has negative effects on the reputation of construction sectors and developers. In addition to this delay reduce client satisfaction and weak financial performance of real estate project.

2.3.1 Project planning and scheduling issues (PLN)

Project planning and scheduling are the major consideration for effective project management, and poor project planning practice has a major impact on project delay and it has negative effect on project coordination and implementation. One of the major planning problems is development of unrealistic schedules that fail to consider project complexity, resource availability, and also potential project risks. According to Odeh and Battaineh (2001), unrealistic project timeline often leads to schedule overruns and project inefficiencies. Another important issues when it comes to project planning is work breakdown structure (WBS). Poor WBS limits the ability of project managers to

divide project activities in to well manageable and more accessible to tasks which results in poor project coordination and confusion. Sambasivan and Soon (2007) identified task breakdown as one major contributor for project delays in construction project. Lack of well detailed activity sequence affect project implementation because of project critical activities are not properly identified. This creates a schedule conflict and creates delay during project execution. According to Al-Heji (2006), ineffective sequence of activities weakens project monitoring and reduce schedule reliability. Another common problem within construction project is failure to regularly update project schedules. Many organizations treat project schedule documents as static documents rather than project manageable tool for monitoring and controlling. Al-Momani (2000), outdated project schedule reduces project control system and increase the risk of project delays. In developing countries most of the time planning and scheduling problem are common due to lack of planning software's, lack of technical planning personnel, and also reactive management practice rather than proactive. In Ethiopian construction industry, Gidisa (2018), found that approximately 78% of contractors identified poor planning as a major cause of delays in construction projects.

2.3.2 Resource management issues (RES)

One of the most crucial points in construction project management is resource management, as it is essential for the projects to be successful and meet the required deadlines. Bad resources management results in project delays because it affects the productivity and project costs. Problems related to the use of resources are among the frequent ones found in construction projects, such as material shortages, equipment unavailability, and financial constraints (Assaf & Al-Hejji, 2006; Sambasivan & Soon, 2007).

Material-related delays: The delay in a construction project is one of the most common causes of delays in the construction project. Materials like cement, steel, aggregates, timber and finishing materials are essential for the construction projects and they need to be delivered on time to keep the work going on the projects. Delay in delivery of materials leads to disruption of construction schedules and a decline in labor productivity. Most of the time, material-related delays are experienced in Ethiopia due to the shortage of foreign currency as most of the construction materials are imported. Lack of good transportation services, unreliable suppliers and seasonal shortages are other factors that cause delays in material availability. All these problems contribute greatly to the cost of the project and adversely to the project completion time (Mahamid, 2013; Aibinu & Jagboro, 2002).

Equipment-related delays:The equipment-related delays also have a huge influence on project success since construction projects depend on machinery including excavators, concrete mixer, bulldozers, loaders, tower cranes, and a lot more. Equipment Shortages are experienced when equipment is not available at the time needed, or when breakdowns are occurring on a frequent basis. Equipment related delays are prevalent in developing countries such as Ethiopia because equipment is rarely available locally, expensive, poorly maintained and spare parts are in short supply. Such challenges disrupt progress in projects, decrease productivity and increase the time required for a project (Sweis et al., 2008; Assaf & Al-Hejji, 2006).

Financial-related delays: One of the most important resource issues that impact the performance of construction projects is the delays associated with finances. Having client payments that are late to contractors can lead to financial problems that impact the entire construction process. Delayed client payments have cascading effects throughout the system of projects as explained by Frimpong et al. (2003), which is because workers, subcontractors, and suppliers are unable to be paid on time by the contractors. This causes material shortages, dissatisfaction amongst workers and sometimes even the abandonment of the project. Also, limited availability of financial resources makes it difficult for the contractors to service their equipment, buy materials and do the work of projects well which increases the chances of delays and cost overruns (Frimpong et al., 2003; Sambasivan & Soon, 2007).

2.4 Theoretical Background

Iron Triangle Theory: One of the most popular theories to assess the success of any project is the Project Management Iron Triangle Theory. The project is considered successful based on three mutually dependent criteria: time, cost and quality, says Atkinson (1999). The theory states that a successful project should be carried out within time, budget and quality requirements. The three dimensions are closely interconnected and changes in one dimension tend to impact on others. For instance, project delays often result in higher costs and can affect project quality if project teams try to speed up activities to catch up (Atkinson, 1999). Construction projects are heavily reliant on the schedule, budget, and quality requirements of the project, which is why the Iron Triangle theory has been widely used in construction project management (Kerzner, 2017). The Project Management Institute (PMI, 2021) states that managing time, cost and quality are a key part of delivering a successful project. The theory, however, has been criticised for its attention to operational efficiency being at the expense of organisational and stakeholder outcomes (Atkinson, 1999). Although these are some limitations, the theory is still applicable to understand the impact of project delay factors on project performance in terms of cost escalation and schedule overruns.

Stakeholder Theory: Freeman, (1984), introduced Stakeholder Theory and it was later introduced to project management by Müller and Turner (2007). The theory holds that the success of the project should not be judged entirely on the basis of technical aspects like time, cost, and quality performance. Rather, the expectations, interests and satisfaction of all project stakeholders who participate in the project (Freeman, 1984) should also be included in the assessment of project success. According to Stakeholder Theory, stakeholders include clients, contractors, consultants, project managers, investors, suppliers, government agencies, and end users. If the major stakeholders are not satisfied with the outcomes, a project could be finished within schedule and budget, but still be deemed a failure (Müller & Turner, 2007). Thus, stakeholder satisfaction, organizational reputation, meeting the project's goals, and long-term business value are crucial factors in measuring project success (PMI, 2021). This theory is especially applicable to construction and real estate development projects where multiple stakeholders engage in various aspects of the project, over its entire life cycle. Project implementation delays can lead to conflict, dissatisfaction, loss of trust, contractual issues, and reputational damage between project stakeholders (Freeman, 1984; Müller & Turner, 2007). As such, project success is now assessed with regard to stakeholder satisfaction, making that element an important dimension to project success.

Integrated theoretical framework of the study: This study uses an integrated theory that integrates the Project Management Iron Triangle Theory (Atkinson, 1999) and the Stakeholder Theory (Freeman, 1984; Müller & Turner, 2007). The Iron Triangle Theory is a basis for understanding the reasons for the impact of project delay factors on project efficiency in terms of project schedule and cost. Completing this view, Stakeholder Theory provides insights on the impact of project delays on other aspects of project success such as stakeholder satisfaction, profitability, objective attainment and organizational reputation.

Theories and empirical findings from the previous studies (Aibinu & Jagboro, 2002; Frimpong et al., 2003; Alinaitwe et al., 2013) were used to guide the study and hence it is assumed that the project delay factors have direct effect on project success. In particular, it is expected that planning and scheduling problems and resource constraints will impact the successful implementation of construction projects. Based on the research of Kerzner, (2017), and PMI, (2021), the project success is a multidimensional project defined as time performance, cost performance, stakeholder satisfaction, profitability, objective achievement, and reputation. The time performance and cost performance are mainly drawn from the Iron Triangle Theory and the contemporary project success literature (Freeman, 1984; Fombrun, 1996; PMI, 2021), while stakeholder satisfaction, objective achievement, profitability, and reputation are taken from the Stakeholder Theory and contemporary project success literature (Freeman, 1984; Fombrun, 1996; PMI, 2021).

Based on this, the study suggests that good planning and scheduling practices and proper utilization of resources play a positive role in determining the success of a project, while weaknesses in these aspects affect the project delays and the results of the project negatively. The integrated framework is used as a basis for a complete analysis of the relationship between the project delay factors and the project success in the case of the Figa residential development project in Addis Ababa, Ethiopia.
The study is grounded on the assumption that improvements in planning and scheduling practices and resource management significantly enhance project success, whereas deficiencies in these areas contribute to project delays and reduced project performance (Atkinson, 1999; Freeman,1984; PMI, 2021).

2.5 Empirical Literature Review

Empirical studies conducted in different countries have identified various factors contributing to construction project delays and their effects on project success. In Ghana, Frimpong et al. (2003) found that delayed payments, material shortages, and financial constraints were the primary causes of delays in groundwater construction projects. Similarly, Aibinu and Jagboro (2002), in a study conducted in Nigeria, reported that client-related problems, poor financial management, and inadequate project coordination significantly contributed to project delays and reduced project performance. Studies in other developing countries have reported comparable findings. For example, Alinaitwe et al. (2013) identified design changes, delayed payments, poor site management, and inadequate supervision as major causes of construction delays in Uganda. Likewise, Assaf and Al-Hejji (2006) found that contractor-related, owner-related, consultant-related, and material-related factors were the principal causes of delays in Saudi Arabian construction projects. In Ethiopia, Gidey et al. (2018) identified financial problems, delayed payments, poor site management, and inadequate planning

as the major causes of delays in construction projects in the Tigray Region. Similarly, Woldesellassie (2019) reported that design changes, scope creep, and permit approval delays were significant factors affecting project completion in Addis Ababa housing projects. Worku and Jha (2016) further found that poor planning, ineffective resource utilization, and financial constraints contributed to cost overruns and schedule delays in Ethiopian building projects. Although previous studies consistently identify financial constraints, planning deficiencies, resource shortages, client-related issues, and design changes as major causes of construction project delays, most have focused on public infrastructure, road, or housing projects. Limited empirical evidence exists regarding the influence of planning factors and resource-related factors on project success within the private real estate sector, particularly in the context of Noah Real Estate in Addis Ababa. Therefore, this study seeks to address this gap by examining the effects of planning and resource-related factors on project success in private real estate construction projects.

2.6 Conceptual framework

The conceptual framework of this study presents the relationship between the major causes of construction project delays and project success in real estate construction projects. This study takes planning and scheduling factors, resource related factors and client related factors as the main independent variables that influence the project success. Planning and scheduling factors such as poor scheduling, unrealistic timeline, week coordination and inadequate project planning practice. These problems may lead to delay in project implementation and reduce overall project performance. Resource related factor is another factor which involves shortage of construction materials, equipment invalidity, financial limitations, and inadequate labor allocation. Inefficient resource management can interrupt project activities and negatively affect project completion. Client related factors include delayed payment, frequent design changes, slow decision making and scope modifications. These issues significantly affect workflow continuity and also project execution. Dependent variable for this research study is project success which refers to successful completion of projects within the planned time, budget and quality standards. The framework assumes the increase of independent variables such as planning and scheduling, resource, and client related problem issues negatively affect project success.

Independent Variables Dependent Variables

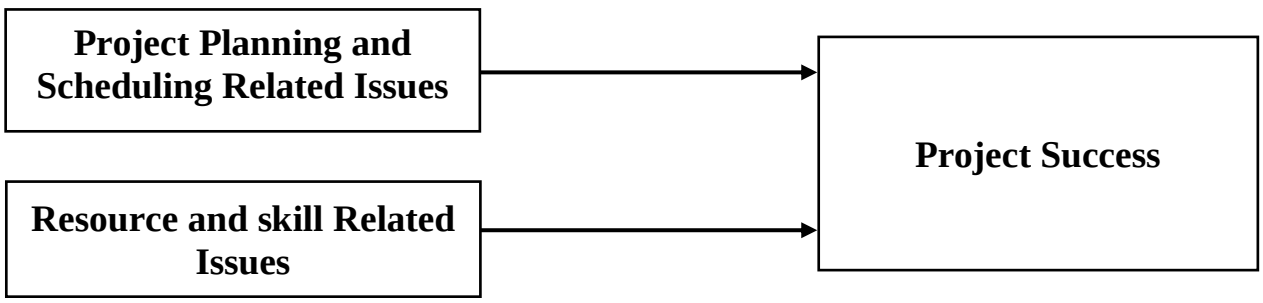


Fig 2.7 Conceptual Framework Showing the Relationship Between Planning Factors, Resource Factors, and Project Success
Source: Developed by the researcher (2026), adapted from Kerzner (2017), PMI (2021), Freeman (1984), and the reviewed empirical literature.

2.6 Hypotheses Development

Project management plays a critical role in the construction industry, particularly in project planning and resource management, and is essential for the success of any project. Effective planning and scheduling activity define project activities, assigning roles and responsibilities, manage time effectively and reduces uncertainties during execution of the project. Similarly, the efficient application of labor, materials, equipment and technical skills will improve the efficiency and performance of the project. Based on theoretical arguments and empirical literature, the following hypotheses were developed (Creswell & Creswell, 2018; Saunders et al., 2019).

Planning and Project Success

Project planning and scheduling are integral components of project management, giving guidance for project activities and ensuring co-ordination between the various participants in the project. A project manager who has done a good job on planning can make good estimates, allocate time effectively, have a minimum of delays, and track the performance of the project to the project objectives. But, if poor planning takes place, there is the possibility of cost overruns, delays, inadequate coordination and inability to achieve quality standards. Thus, planned and well-scheduled projects have a higher chance of success regarding time, cost and quality performance (Kerzner, 2022; Pinto & Slevin, 1988).

H1: The planning and scheduling factors are significantly positively affecting the project success in Noah Real Estate Projects.

The importance of resource factors for project success.

Another very important factor that affects the construction projects' success is resource management. Skilled workforce, materials, and equipment, and technical expertise are essential for efficient project management and minimized inefficiencies. Inadequate resource management results in slow response time, higher cost, reduced productivity and poor-quality outcomes. However, good and proper use of resources would improve project achievement and project efficiency (Sambasivan & Soon, 2007; Assaf & Al-Hejji, 2006).

H2: Resource and skill factors play an important positive role in the success of Noah Real Estate Projects.

The overall impact of planning and resource factors on project success.

Project success is not a single trait of the project management approach, but rather a result of the interplay of several approaches to project management. With effective planning, activities are coordinated appropriately and with efficient resource management, the required inputs for executing the plans are available and utilized

optimally. Project management planning and resource management help to mitigate project risks, enhance coordination, and increase the chances of successfully meeting project goals (PMI, 2021; Kerzner, 2022).

The two factors project planning factors and resource factors influence project success at Noah Real Estate together.

CHAPTER THREE

RESEARCH METHODOLOGY

On this chapter the study focuses on the methodology behind the reason for delay and how they affect private real estate in particularly, Noah real Estate. This chapter mainly consists of the following points; research design and approach, research population, sample size, data gathering procedures, sampling procedures, research instrument, data analysis, and the method conducted for the study.

3.1 Description of study organization

Since its establishment in 2013, Noah Real Estate PLC has become a cornerstone of real estate in Ethiopia, delivering 32 landmark projects (15 residential, 6 commercial, and 11 mixed-use) across Addis Ababa. With 12 projects under development, (Noah Real Estate website). Noah Real Estate PLC is a sister company of Great Abyssinia PLC, a major fastmoving consumer goods (FMCG) company in Ethiopia. Great Abyssinia PLC owns and markets several well-known brands such as Abyssinia Coffee, Prigat Juice, Tulip, and Aby soda drinks, and it has operations including water bottling in partnership with Nestle under the Abyssinia Springs brand. The respondent to the survey were mainly engineers, managers, suppliers, accountants who work for Noah real estate office as consultant, contractor, and clients. The selection of each respondent was based on their prior experience implementing the initiatives. To find the most significant causes of delays and the typical effect of delays, a questionnaire survey was sent to the intended respondents (Source, Company website).

3.2 Research approach

This study adopted a quantitative research approach to examine the effects of planning and scheduling factors and resource and skill factors on project success at Noah Real Estate. The quantitative approach was selected because it enables the collection of numerical data and the use of statistical techniques to test relationships between variables objectively. Data were collected using structured questionnaires and analyzed using descriptive statistics, Pearson correlation analysis, multiple regression analysis, and ANOVA. According to Creswell and Creswell (2018), a quantitative research approach is appropriate for testing hypotheses, measuring variables objectively, and determining statistical relationships among variables.

3.3 Research Design

This study employed an explanatory (causal) research design to examine the cause-and-effect relationship between planning and scheduling factors, resource and skill factors, and project success at Noah Real Estate. The explanatory research design was considered appropriate because it enables the investigation of how independent variables influence a dependent variable. According to Saunders, Lewis, and Thornhill (2019), explanatory research is used to establish and explain relationships between variables. Therefore, this design was suitable for evaluating the effects of planning and scheduling factors and resource and skill factors on project success.

3.4 Population of the study

The population of this study consists of all personnel who are directly involved in or affected by the design, implementation, and management of construction projects at Noah Real Estate in Addis Ababa, Ethiopia. This comprises technical and administrative personnel, as well as clients that have experienced project delays. The population includes project managers, site engineers, construction supervisors, quantity surveyors, contractors, subcontractors, consultants, and chosen clients or home buyers from delayed projects. These groups were selected because they have firsthand knowledge and experience with project execution issues, timetable slippage, and the consequences of construction delays. From this population, 102 respondents were selected as they are considered critical in providing reliable and relevant information for identifying the root causes of project delays and evaluating their impact on project performance. Their perspectives are essential for generating accurate and practical findings for the study.

3.5 Sampling technique and sample size

To gather relevant and accurate information, this study will use a mixed sampling technique. Purposive sampling will be utilized to pick project specialists such as managers, engineers, supervisors, and quantity surveyors, who have specific knowledge and direct experience managing construction timelines. In addition, simple random sampling was be used to choose clients or home buyers from delayed projects, reducing bias and ensuring fairness in selection. The study uses a total population of 150 which involves contractor, consultant and client.

The sample size for this study was determined using Yamane's formula. A statistically representative selection of employees from the target population is essential (Yamane, 1967):

$$n = \frac{N}{1+N(e2)}$$

$$n = \frac{150}{1+150\,(0.05)2}$$

$$n = \frac{150}{1+150\,(0.0025)}$$

$$n = \frac{150}{1.375}$$

$$n = 109$$

Where;
n = is sample size
N= is the total population
Based on Yamane, (1967), the required sample size was approximately 109 respondents, however 102 valid respondents were obtained and used for the analysis resulting in a response rate of approximately 93.6%, which is considered adequate for statistical analysis and generalization of the findings.

3.6 Data collection

Aibinu and Jagboro (2002) and Frimpong et al. (2003) have identified some of the main problems affecting construction projects in terms of planning and scheduling, resource shortage and skills of the workforce. Alinaitwe et al. (2013) and PMI (2021) have further found some of the underlying reasons for construction project delays and poor project performance to include planning and scheduling issues, resources shortages and inadequate skills of the workforce. Moreover, project management literature has pointed out that project's time performance, cost performance, stakeholder satisfaction, profitability, objective achievement and organizational reputation are critical factors for project success, that can be attributed to effective planning and resource management (Atkinson, 1999; Kerzner, 2017). The research questions are formulated based on the theoretical and empirical results obtained.
Based on the formulated questions which were delivered from past researchers, Aibinu and Jagboro (2002) and Frimpong et al. (2003) as well as Alinaitwe et al. (2013) and PMI (2021), which were mentioned with in chapter one, data were collected. The questionnaire was chosen rather than interviews or observation as it is more appropriate for obtaining data from a relatively large number of respondents in a limited time. Unlike interviews, questionnaires are not time-consuming and cannot be subject to interviewer bias, as they have the same questions and are answered in the same way by all participants. Questionnaires are also suitable for this study as it provides quantitative data which could be coded and statistically analyzed using statistical techniques to explore any relationships between variables and to test hypotheses. Moreover, this approach will enable respondents to provide their answers as and when they want, thus enhancing response reliability and minimizing pressure in data collection.

3.7 Data analysis model, techniques, software, etc.

The collected data were coded, entered, and analyzed using the Statistical Package for the Social Sciences (SPSS). The study employed the multiple linear regression model, as the research sought to examine the effect of multiple independent variables planning related issues, resource-related issues, and client-related issues on the dependent variable, project success. The multiple linear regression model was selected because it is appropriate for estimating the individual and combined effects of several predictor variables on a single continuous outcome variable while controlling for the influence

of the other predictors. Descriptive and inferential statistical techniques were used to analyze the data and address the research objectives. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize respondents' demographic characteristics and assess the levels of agreement on the study variables. Inferential statistics included Pearson correlation analysis to determine the strength and direction of the relationships between the independent variables and project success. Multiple linear regression analysis was then employed to determine the effect of each independent variable on project success and to identify the most significant predictor of project success.

3.8 Reliability and validity analysis

According to Kothari (2004), the validity of a test is the degree to which it can accurately and precisely reflect the results of a measurement technique. The extent to which the content aspect of the questionnaire instrument covers the topic being evaluated is another definition of the validity of the content. The accuracy of the data gathering tools was examined in light of the literature that was at hand. The Cronbach alpha coefficient is the most common method used for assessing the reliability of a measurement scale (Hayes & Bob, 1998). Using SPSS software, which is frequently used, the reliability of the surveys is examined using the Cronbach's Alpha test coefficient. The degree of internal dependability, or how closely a set of items are related, is shown by the Cronbach's alpha coefficients. The range of Cronbach's alpha values was 0 to 1. Values above 0.70 are regarded as "rational" or appropriate in the majority of social science study environments. A greater value always suggests for the internal consistency Cronbach's of Alpha (Gliem and Gliem, 2003).

Variable	Item	Cronbach alpha
Planning and Scheduling Related Issues	6	0.81
Resource and skill Related Issues	5	0.822
Project Success	5	7.17

Own survey 2026

Table 3.8 Reliability test of variability Cronbach alpha

This table shows the reliability test of the study variables were assessed using Cronbach’s Alpha to examine the internal consistency of the measurement items. The results show all the variables has acceptable to excellent reliability levels. Planning and scheduling related issues which consists of six items has a Cronbach’s alpha value of 0.81 which indicate good internal consistency among items and suggesting that they reliably measure the same underlying construct. Resource and skill related issues also measured using six items that has a Cronbach’s alpha of 0.822 which reflects excellent reliability and show high level of consistency among items. All the Cronbach alpha values show a value above the recommended threshold of 0.70, the instruments used in this study are considered reliable appropriate for further statistical analysis.

3.9 Ethical Consideration

Ethical standards were strictly observed throughout the course of this research to ensure the protection of respondents and the integrity of the data collected. Participation in the study was entirely voluntary, and respondents were clearly informed about the purpose and objectives of the research before data collection began. They were assured that their responses would be treated with full confidentiality and used strictly for academic

purposes only. In addition, respondents were informed that their identities would remain anonymous, and no personally identifiable information would be disclosed at any stage of the research process. Prior to data collection, informed consent was obtained either in written or verbal form, ensuring that participants agreed to take part in the study with full awareness of their rights. Furthermore, all collected data were securely stored and handled with strict confidentiality to prevent unauthorized access. The study also ensured that respondents were not subjected to any form of harm, pressure, or coercion during participation. Overall, these ethical measures were implemented to comply with academic research standards and to enhance the credibility and reliability of the study findings.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

This chapter presents the data analysis, interpretation, and discussion of those findings which are obtained from the questionaries' distributed for the respondents. The purpose for this chapter is to analysis the collected date in order to answer those questionaries' and meet the goal of the study. The questioner was distributed using google format and the data was analyzed and summarized using SPSS. Descriptive statistical tools such as frequency, percentage, mean, and standard deviation were used to present and interpret the data. To make those findings clear and more understandable the result is presented using tables and explanations.

4.1 Respondent rate

The target between the target and achieved sample size can be attributed to several practical factors. Firstly, the limited availability of respondents due to workload and project commitments affected participation. Secondly, time constraints among construction professionals made it difficult for some individuals to complete the questionnaire within the data collection period. Thirdly, a small number of questionnaires were either not returned, and thus excluded from the final analysis to maintain data quality and consistency. 109 questions were distributed and 102 were filled the respondent rate was 93.6% which is considered highly acceptable for statistical analysis and research reliability. The relatively high responses rate enhances the credibility and reliability of the findings, as it indicates a strong level of engagement from the target population. Furthermore, all collected responses were complete, with no missing data, which further strengthens the quality of the dataset and supports robust statistical analysis. In addition, the respondents represent a diverse range of stakeholder groups, including contractors, consultants, clients and also other relevant participants in the construction process. This diversity ensuring that multiple perspectives are captured, thereby improving the representativeness and generalizability of the study findings within the context of the real estate construction sector.

4.1.1 Demographic profile of Respondent

On this section it can see the demographic characteristics of the respondents who participated within this data collection for this research study. Understanding the background of the respondent is very important because it can help to determine whether the participant have enough knowledge about the area were this study is

conducting or not. This study analysis demographic profiles of respondents such as gender, to determine the gender distribution of respondents, age, to identify different age group respondents found, year of experience, to identify the experience level of the respondents with in the construction sector, education qualification, to identify academic background of the respondents, type of project stakeholders, to determine whether the respondents a contractor, client or consultant, job responsibility, to identify the role of respondents within the organization.

Respondent Information

1. Gender		Frequency	Valid Percent
Valid	Female	38	37.3
	Male	64	62.7
	Total	102	100.0

Own Survey, 2026 G.C
Table 4.1.1 Respondent gender

The result of this table shows that out of the total 102 respondents 64 (62.7 %) were male respondents and 38 (37.3%) were showing female respondents. This result shows that majority of the respondents are male and this highest respondent of male indicates that construction and real estate sectors are predominantly dominated by male. However, the inclusion of female respondents provides additional perspective contributing to a more balanced understanding of study.

2. Age		Frequency	Valid Percent
Valid	26-35	59	57.8
	36-45	35	34.3
	> 45 Years	8	7.8
	Total	102	100.0

Own Survey, 2026 G.C
Table 4.1.1.2 Respondent age

The table presents the age distribution of respondents involved in this study. The findings show that the majority of respondents fall within the age of 26-35 years group, accounting for 59 respondents (57.8%) of the total sample. This indicates that more than half of the participants are relatively young professionals actively engaged in the construction sector. The second largest group is the 36-45 years category, which is accounting 35 respondents (34.3%) of respondents. Respondents aged >45 years account for 8 respondents (7.8%), providing input from more experienced professionals. The results clearly show that the study is dominated by respondents within the age group of 26-35 years, which reflects a workforce that is active, engaged, and likely to be directly involved in day to day construction activities. The inclusion of older respondents also adds valuable experience and perspective, contributing to the overall reliability and balance of the data.

3. Role		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Client	38	37.3	37.3	37.3
	Consultant	19	18.6	18.6	55.9

	Contractor	45	44.1	44.1	100.0
	Total	102	100.0	100.0	

Own Survey, 2026 G.C

Table 4.1.1.3 Respondent role in construction sector

This table shows out of 102 respondents' majority of them were contractors accounting 45 (44.1%) respondents. This shows that majority of the respondents are part of the groups were involved in project execution activities, making them dominant group of the study. The second largest group was client which represent 38 (37.3%) of respondents. This indicate that the significant part of respondents of the data presents important stakeholders that are financiers whose decisions has influence on project outcomes. The third group of respondents were consultant representing 19 (18.6%) of respondents. This indicates the significant portion of data reflects professional opinions from individuals involved in design, supervision and advisory role.

4. Year of Experience in real estate construction sector		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 5 years	30	29.4	29.4	100.0
	6-15 Years	59	57.8	57.8	70.6
	16-25 Years	7	6.9	6.9	12.7
	>25 Years	6	5.9	5.9	5.9
	Total	102	100.0	100.0	

Own Survey, 2026 G.C

Table 4.1.1.2 Respondent year of experience

The distribution of respondents' work experience in the real estate construction sector shows that most participants have moderate to high levels of experience. Out of the total 102 respondents, 59 (57.8%) have between 6-15 years of experience, making this the dominant group in the study. This is followed by 30 respondents (29.4%) who have experience less than 5 years, indicating a considerable proportion of relatively new professionals in the sector. In addition, 7 respondents (6.9%) have 16-25 years of experience, while another 6 respondents (5.9%) have more than 25 years of experience. The cumulative distribution further shows that 87.9% of respondents have 15 years or less experience, suggesting that the majority of participants are still in the early to mid-stage of their professional careers. The smaller proportion of highly experienced respondents (above 15 years) indicates limited representation of senior experts in the sample. Overall, this experience distribution suggests that the findings of the study largely reflect the views of moderately experienced professionals who are actively engaged in real estate construction activities.

5. Job Position		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Construction Manager	16	15.7	15.7	15.7
	Design Consultant	2	2.0	2.0	17.6
	Design & Supervision Con	11	10.8	10.8	28.4
	Project Coordinator	21	20.6	20.6	49.0

	Project Management Con	8	7.8	7.8	56.9
	Project Manager	13	12.7	12.7	69.6
	Site Engineer/ Supervision	31	30.4	30.4	100.0
	Total	102	100.0	100.0	

Own Survey, 2026 G.C

Table 4.1.1.2 Respondent type of project involved in

Job position distribution of respondents show that the study includes participants with various professional roles involved within the real estate construction project. Out of 102 respondents the largest group fall under site engineers/supervisions with 31 (30.4%) respondents, which indicates significant proportion of the collected data reflects perspective of site level operations. The second respondents are project coordinators with 21 (20.6%) respondents and construction managers with 16 (15.7%) respondents which shows strong representation from middle level management positions. Additionally, project managers account 16 (15.7%) respondents, design and supervision consultant accounts 11 (10.8%) respondents and project management consultant and design consultant accounts 8 (7.8%) of respondents and 2 (2.0%) respondent respectively. This shows that majority of the respondents are directly involved in site supervision and coordination roles and the remaining respondents represent high level managerial and consultancy positions. Generally, the study captures the views of both technical and managerial professionals providing a balanced perspective on project delays and success factors in real estate construction project.

6. Educational Qualification		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Degree	76	74.5	74.5	74.5
	Diploma	7	6.9	6.9	81.4
	Masters	19	18.6	18.6	100.0
	Total	102	100.0	100.0	

Own Survey, 2026 G.C

Table 4.1.1.2 Respondent education level

Education qualification of respondent shows that the majority of respondents are well educated personnel who holds university degree or higher. Out of total 102 respondents 76 (74.5%) of the respondents have a bachelor's degree making them the most dominant qualification group of respondents for this study. 19 (18.6 %) of respondents holds a master's degree which show higher education professional are included within this study. And 7 (6.9 %) of respondents holds a diploma level education qualification. Most of the respondents have at least a degree or diploma level education which shows the study mainly reflects the view of formally educated professionals in the real estate construction sector. The presence of master's degree holders shows that some respondents advanced academic and professional expertise which can enhance the quality and reliability of responses. The educational background of respondents shows that the data collected is reliable and informed as most participants possess relevant academic qualifications related to construction, engineering or project management field.

4.2 Descriptive Analysis

In this section the descriptive statistics for that variables were studied found here. The descriptive variables that were studied are planning and scheduling, resource and skill, client related factors and project success. Mean and standard deviation were used to show the average perception of respondents regarding the statement and standard deviation measures the variability of respondents around the mean. To interpret the mean score classification scale was established in order to categorize the level of agreement in to three level. The mean value ranging from 1.00-2.49 were considered low, mean value from 2.50-3.49 were considered medium and mean value from 3.50-5.00 were considered high.

4.2.1 Planning and scheduling related issues

Descriptive statistics	N	Minimum	Maximum	Mean	Std. Deviation
Schedules occasionally require adjustment	102	3	5	4.42	.681
Initial timelines difficult to maintain	102	3	5	4.38	.732
Delays increase when scope changes without schedule revision	102	3	5	4.64	.610
Performance declines when planning activities poorly coordinated	102	3	5	4.38	.718
Activities slow when tasks begin without detailed work plans	102	3	5	4.37	.730
Completion difficult when scheduling assumptions unrealistic	102	3	5	4.55	.669
Valid N (listwise)	102				

Own survey 2026
Table 4.2.1 Planning and scheduling

The descriptive statistics analysis was done to explore the respondents' perceptions on the issues related to planning and scheduling which could hamper project implementation and success. The study findings indicated that most of the respondents agreed that the planning and scheduling problems significantly influence on the performance of a project. This is reflected in the high mean scores obtained for all the measurement items from 4.37 to 4.64 on the 5-point Likert scale. The relatively low standard deviation values which ranged from 0.610 to 0.732 also reflect the uniformity of the opinions of the respondents. The statement that received the highest mean score of 4.64, with standard deviation of 0.610 was that delays are increased when scope changes without schedule change, which reflects the strong agreement from respondents that scope changes not addressed by revised project schedules are significant causes of project delays. Likewise, the statement Completion difficulty when scheduling assumptions unrealistic had a high mean of 4.55, with standard deviation of 0.669 which showing that unrealistic scheduling assumptions make it

difficult to complete the project on time. Moreover, the project schedule sometimes needs changes as the project proceeds has mean values of 4.42, with standard deviation of 0.681, and the original project timelines are sometimes hard to keep has mean values of 4.38, with standard deviation of 0.732. It was also found that a lack of coordination in planning activities negatively affects project performance has mean values of 4.38, with standard deviation of 0.718, and that project activities proceed slower if beginning activities without detailed work plan has mean values of 4.37, with standard deviation of 0.730. As a whole, the results suggest that planning and scheduling problems are critical issues that can impact project performance and success. Lack of coordination, unrealistic schedules, inadequate work planning and not updating schedules due to changes in the projects were cited as major factors causing delays and poor project performance. Hence, the importance of good planning and scheduling in enhancing project implementation and getting desired project results.

4.2.2 Resource and Skill related issues

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Material supply influences workflow	102	3	5	3.99	.777
Technical skill levels influence task performance	102	3	5	3.88	.800
Delays increase when materials delivered late	102	3	5	4.18	.763
Progress slower when labor allocation not effectively managed	102	3	5	3.96	.783
Performance decreases when equipment shortages unexpected	102	3	5	4.16	.793
Interruptions when critical materials unavailable on-site	102	3	5	4.31	.731
Valid N (listwise)	102				

Own survey 2026
Table 4.2.2 Resource and Skill related issues

The descriptive statistics analysis was carried out to evaluate the perception of the respondents towards the resource related issues on the project implementation and achievement. The results show that most respondents agreed that there is a strong relationship between the resource related challenges and the project performance and flow. This is reflected in the average scores of all items from 3.88 to 4.31 at the 5-point Likert scale. The standard deviation scores ranged from 0.731 to 0.800, which were relatively low scores and had low variations between the respondents' responses, and thus relatively low variations in their opinions. The highest mean score means values of 4.31, with standard deviation of 0.731 was received for the variable when critical materials unavailable onsite which shows a high degree of agreement among

respondents that the absence of critical materials at the project site is a significant interruption to project activities and workflow. The same applies to the statement Delays increase when materials delivered late which had a high mean rating of 4.18, with standard deviation of 0.763, meaning that delayed material delivery is a significant reason for delays in a project. The results also showed that the respondents agreed that unexpected equipment shortages make project performance poor mean values of 4.16, with standard deviation of 0.793. Besides, the respondents admitted that inefficient material supply has a negative impact on workflow efficiency mean value of 3.99, with standard deviation of 0.777, and ineffective labor allocation delays a project mean value of 3.96, with standard deviation of 0.783. The second statement is that Technical skill levels influence task performance, it had a relatively high mean score mean value of 3.88, with standard deviation of 0.800, which means that the competency and skill level of workers has an important role in the implementation of the project. Generally, the results indicated that the problems related to resources are important factors in project execution and project success. The issues falling short of desired project performance and workflow interruption were determined to be delays in material deliveries, lack of equipment and critical materials, ineffective allocation of labor, and lack of technical skills. Hence, good resource management is crucial for ensuring proper implementation of the project and successful project results.

4.2.3 Project Success

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Budget performance is achieved as planned	102	2	5	4.23	.819
Stakeholder satisfaction is achieved in projects	102	2	5	4.22	.840
Project profitability is achieved	102	2	5	4.20	.833
Project objectives are achieved	102	2	5	4.12	.904
A good company reputation is maintained through project performance	102	3	5	4.32	.773
Valid N (listwise)	102				

Own survey 2026

Table 4.2.4 Project success

Descriptive statistics analysis was completed to see the perceptions of the respondents about the success of the project in the study area. The results showed that overall the projects were successful in reaching satisfactory performance in various performance indicators. This is seen from the mean scores of all items ranging between 4.12 to 4.32 in a 5-point Likert scale. The range of standard deviation values was between 0.773 and 0.904, which reflected acceptable variability in the responses and consistency of the respondents' opinions. The statement A good company reputation is maintained through project performance had the highest mean score of 4.32, with standard deviation of

0.773, suggesting respondents agreed strongly that successful project performance is a positive way to maintain the company's reputation. The same was true of the statement, Budget performance is achieved as planned which had a high mean value of 4.23, with standard deviation of 0.819; indicating that projects are generally completed within planned financial framework. The results also revealed that the level of satisfaction of stakeholders is achieved in projects mean value of 4.22, with standard deviation of 0.840, and the level of profitability is achieved in projects with mean value of 4.20, with standard deviation of 0.833. The objectives of the project are also met mean value of 4.12, with standard deviation of 0.904, but this is the lowest mean score of all the project success indicators. The results are generally favorable with respect to the performance of the projects studied concerning budget, stakeholders, profitability, objectives and corporate image. The findings suggest that a project can be more successful and have a positive impact on the organization's performance when effective project management practices are applied.

4.3 Correlation Analysis

Correlations		Project_Success	Planning_ave	Resource_ave
Project_Success	Pearson Correlation	1	.521**	.467**
	Sig. (2-tailed)		.000	.000
	N	102	102	102
Planning_ave	Pearson Correlation	.521**	1	.791**
	Sig. (2-tailed)	.000		.000
	N	102	102	102
Resource_ave	Pearson Correlation	.467**	.791**	1
	Sig. (2-tailed)	.000	.000	
	N	102	102	102

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.3 Correlation Analysis

A Pearson correlation analysis of the 102 responses was used to determine the relationship between Project Success, Planning, and Resource factors. According to Evans, (1996), the strength of correlation can be interpreted as; 0.00-0.19 very weak, 0.20-0.39 weak, 0.40-0.59 moderate, 0.60-0.79 strong, and 0.80-1.00 very strong. According to Field, (2018), statistical significance is commonly interrupted as; $p<0.001$ highly significant, $p<0.05$ significant, and $p>0.05$ not significant. The planning and project success have a moderate positive and statistically significant correlation ($r = 0.521$, $p < 0.01$). This means that higher project success is related to better planning. Similarly, there is a moderate positive and statistically significant relationship between Resource factors and Project Success ($r = 0.467$, $p < 0.01$). This indicates that improvements in resource availability and management lead to better project success but the relationship is slightly weaker than planning. A positive correlation ($r = 0.791$,

$p<0.01$) is also observed between Planning and Resource factors. This means that there is a strong relationship between the independent variables planning and management of resources, as the projects with the most favorable planning also have the most favorable management of resources. The result shows all the correlations are positive and statistically significant at 0.01 level, indicating that all the variables are on the same trend and the correlation is not random. According to the strength of the correlation, planning has more impact on Project Success than Resource factors.

4.4 Regression Analysis (Tests)

Regression analysis is a statistical technique used to examine the extent to which one or more independent variables predict or explain a dependent variable. Unlike correlation, which only measures the strength of a relationship, regression analysis goes further by identifying the direction and magnitude of influence between variables. According to Sekaran & Bougie (2016), regression analysis is widely used in business and social research to predict outcomes and determine how independent variables contribute to changes in a dependent variable. Similarly, Kothari (2004) explains that regression is a powerful statistical tool for estimating relationships among variables and is commonly applied in empirical research to test hypotheses and support decision-making. In construction management studies, regression analysis is frequently used to determine how factors such as cost, time, planning, and resource availability influence project performance outcomes. It helps researchers identify the most significant predictors of project delays and their impacts, making it a valuable tool for prioritizing problem areas. Therefore, in this study, regression analysis is employed to determine the extent to which the identified causes of project delays (independent variables) influence project delay effects such as cost overrun, time overrun, and other performance outcomes (dependent variables). This enables the study to go beyond relationships and assess the predictive power of delay factors in real estate construction projects.

4.4.1 Assumptions and tests

Prior to performing multiple regression analysis, tests should be performed to determine if the data meet the assumptions of regression analysis. Assumption tests are needed to make sure that the regression results are valid, reliable and not statistically biased. When these assumptions are not met, the regression coefficient values and the significance levels as well as the overall meaning of the regression model can be misleading. For this reason, a few diagnostic tests were carried out before carrying out the regression. The key assumptions that are tested in this study are normality, linearity, multicollinearity, independence of errors and homoscedasticity. Each of the assumptions were explored using different statistical methods and graphical methods.

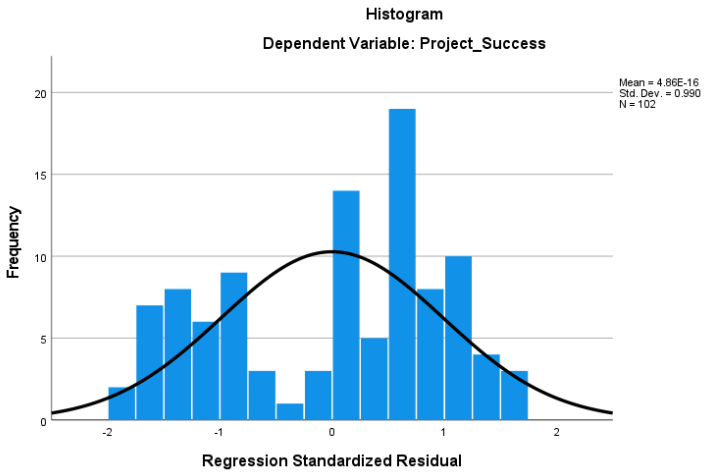


Table 4.4.1.2 Linearity test

Normality Test: A histogram of standardized residuals was used to check the normality assumption of the regression model. The residuals were distributed approximately in a bell-shaped pattern around the mean value as shown in the histogram below, suggesting that the data were reasonably normally distributed. The histogram also showed that the residuals were symmetrically distributed with no serious deviations from normality or presence of extreme outliers. In addition, the mean absolute value of the standardized residuals was near zero (Mean = 4.86E-16) and the standard deviation was near one (Std. The assumption of normality can also be confirmed by the values of the skewness coefficient, which is equal to 0.990. Based on the results of this study, it can be concluded that data were normal and suitable for further statistical analysis of regression.

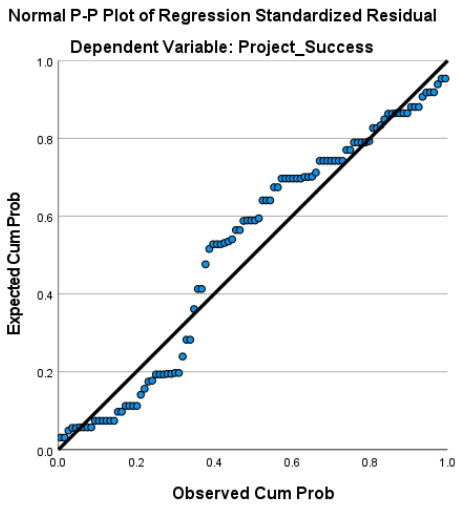


Table 4.4.1.1 Normality test

Linearity test: The assumption of linearity was tested using a scatterplot of standardized residuals against standardized predicted values generated from the multiple linear regression analysis. The test was used to determine whether a linear relationship exist between those independent variables planning and scheduling related issues, resource and skill related issues and client related issues and dependent variable of project success. The plot compares the observed cumulative probability of the standardized residuals with the expected cumulative probability under a normal distribution. As shown in the figure bellow most of the data points are closely distributed along the diagonal reference line. This indicates that residuals are approximately normally distributed. Although a few points show slight deviations from the straight line, the deviations are not severe enough to indicate a serious violation of the normality assumption. In regression analysis, minor departures from the line are considered acceptable, particularly when the overall pattern follows the diagonal trend. Therefore, the regression model satisfies the assumption of normality. The result suggests that the regression estimates and statistical tests obtained from the model are reliable and appropriate for interpreting the relationship between the independent variables and project success.

Homoscedasticity test: Homoscedasticity assumption was checked by plotting a scatter graph of regression standardized residuals versus the dependent variable. The scatterplot indicated that the residuals were randomly distributed with no clear systematic trend, funnel shape or curves. The variance in the residuals seemed to be fairly constant across the range of the values, suggesting an equal spread of the points. This indicates that there was no evidence of lack of homoscedasticity. So, the regression model was deemed to be suitable for further statistical analysis and interpretation.

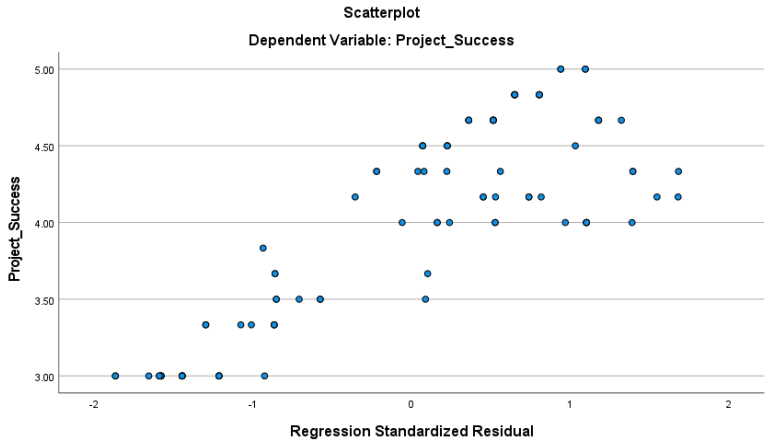


Table 4.4.1.3 Homoscedasticity test

Multicollinearity test

Model		Collinearity statistics	
		Tolerance	VIF
1	(Constant)		
	Planning_ave	.374	2.676
	Resource_ave	.374	2.676

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Table 4.5.1.4 Multicollinearity test

In order to assessed Multicollinearity tolerance and variance inflation factor (VIF) values were used. The results show that tolerance values 0.374 to, and VIF values of 2.676 which is below the acceptable value of 10. Since tolerance values are above 0.1 and VIF values are below 10. The result show that there is no serious multicollinearity problem among the independent variables. Therefor the independent variables were sufficiently independent from one another, and the regression model was considered appropriate for further analysis.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.529[a]	.280	.265	.57460	2.370

a. Predictors: (Constant), Resource_ave, Planning_ave

b. Dependent Variable: Project_Success

Table 4.4.1.5 Model summary

The model summary shows the overall explanatory power and fit of the regression model employed to predict the project success from planning factors and project resources. The result reveals r value of 0.529 or the moderate positive correlation between the independent variables and project success. When planning and resource factors are combined, then planning has a moderate association with the dependent variable. The R Square value of 0.280 indicates that 28% of the project success can be explained by the planning and resource factors in the model. This means that the model explains a large amount (72%) of the variance in project success, but that a large proportion of the variance in project success is not explained by the model. The Adjusted R Square value is 0.265, which is a little lower than R Square, as expected because it is adjusted for the number of predictors in the model. This is an indication that the explanatory power of the model after adjustment is fair but not very strong. The Standard Error of the Estimate is 0.57460, indicating the average error between the actual and estimated project success, and is a measure of the degree of accuracy of the model. The relatively moderate value indicates that the prediction accuracy is acceptable. Lastly, the Durbin-Watson statistic is 2.370, close to the desirable level of 2.0. This means that there are no serious autocorrelation problems with the residuals and thus no violation of regression assumption. In general, the model has moderate explanatory power and has a statistical validity of about 80%, which means that the factors of planning and resources have an important role in explaining the success of the project, but other external factors are also important.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.693	2	6.346	19.222	.000[b]
	Residual	32.686	99	.330		
	Total	45.379	101			

a. Dependent Variable: Project_Success

b. Predictors: (Constant), Resource_ave, Planning_ave

Table 4.4.1.5 Anova

The ANOVA results indicate that the overall regression model is statistically significant ($F = 19.222$, $p < 0.001$), demonstrating that planning and resource factors jointly have a significant effect on project success. Since the significance value is less than 0.05, the null hypothesis that the independent variables have no effect on project success is rejected. This confirms that the regression model provides a good fit for the data and is appropriate for explaining variations in project success. The findings further suggest that planning and resource-related factors, when considered together, significantly contribute to predicting project success at Noah Real Estate.

Regression Analysis

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.315	.475		2.769	.007
	Planning_ave	.496	.171	.405	2.906	.005
	Resource_ave	.133	.127	.146	1.049	.297

a. Dependent Variable: Project_Success

The regression coefficients were analyzed to determine the individual effects of planning and resource factors on project success. As shown in Table 4.1.6, planning has a positive and statistically significant effect on project success ($B = 0.496$, $\beta = 0.405$, $t = 2.906$, $p = 0.005$). Since the p-value is less than 0.05, the effect is statistically significant, indicating that improvements in project planning and scheduling significantly enhance project success. Specifically, holding other variables constant, a one-unit increase in planning is associated with a 0.496-unit increase in project success. This finding supports the hypothesis that effective planning contributes positively to project success.

In contrast, resource factors have a positive but statistically insignificant effect on project success ($B = 0.133$, $\beta = 0.146$, $t = 1.049$, $p = 0.297$). Although the positive coefficient suggests that better resource management may improve project success, the p-value exceeds the 0.05 significance level, indicating that the effect is not statistically significant. Therefore, the study concludes that planning is the stronger predictor of project success at Noah Real Estate, while resource factors do not independently make a significant contribution within the regression model.

4.5 Explain the results of a hypothesis test

The hypotheses of this study were tested using Pearson correlation analysis, multiple regression analysis, and analysis of variance (ANOVA) to determine the effects of planning and resource factors on project success at Noah Real Estate.

Hypothesis 1 (H1): Project planning and scheduling have a significant positive effect on project success.

The regression results indicate that planning has a positive and statistically significant effect on project success ($B = 0.496$, $\beta = 0.405$, $t = 2.906$, $p = 0.005$). Since the p-value is less than 0.05, the null hypothesis is rejected and the alternative hypothesis is accepted. This finding indicates that effective planning and scheduling significantly improve project success in terms of achieving project objectives related to time, cost, and quality.

Hypothesis 2 (H2): Resource factors have a significant positive effect on project success.

The regression results show that resource factors have a positive but statistically insignificant effect on project success (B = 0.133, β = 0.146, t = 1.049, p = 0.297). Since the p-value is greater than 0.05, the null hypothesis cannot be rejected. Although the positive coefficient suggests that improved resource management may contribute to project success, its independent effect is not statistically significant in this study.

Hypothesis 3 (H3): Planning and resource factors jointly have a significant effect on project success.

The ANOVA results show that the overall regression model is statistically significant ($F = 19.222$, $p < 0.001$). Since the significance value is less than 0.05, the null hypothesis is rejected and the alternative hypothesis is accepted. This indicates that planning and resource factors jointly have a significant influence on project success. Therefore, the regression model is appropriate for explaining variations in project success at Noah Real Estate.

4.6 Discussion of results

The findings of this study indicate that project planning and scheduling have a positive and statistically significant effect on project success at Noah Real Estate ($\beta = 0.405$, $p = 0.005$). This suggests that effective planning and scheduling practices enhance the achievement of project objectives related to time, cost, and quality. The result is consistent with the findings of Prakash and Joseph (2014), who reported that strategic planning and effective project monitoring are essential determinants of project success. Similarly, Ashraf and Ghanim (2016) found that effective planning and control systems contribute to minimizing project delays and improving project performance. The Pearson correlation analysis also revealed a moderate positive relationship between planning and project success ($r = 0.521$, $p < 0.01$), indicating that improvements in planning are associated with higher levels of project success. These findings imply that strengthening planning and scheduling practices is essential for improving project performance at Noah Real Estate. In contrast, resource factors were found to have a positive but statistically insignificant effect on project success ($\beta = 0.146$, $p = 0.297$). Although the correlation analysis showed a moderate positive relationship between resource factors and project success ($r = 0.467$, $p < 0.01$), their independent effect was not significant when planning was included in the regression model. This suggests that effective planning may play a more influential role than resource availability in determining project success. The finding differs from studies such as Dinakar (2014) and Ramya et al. (2015), which identified labour shortages, material shortages, and equipment availability as significant determinants of project performance. The difference may be attributed to variations in organizational practices, project characteristics, and the context of the Ethiopian real estate sector. Furthermore, the ANOVA results confirmed that planning and resource factors jointly have a statistically significant effect on project success ($F = 19.222$, $p < 0.001$). This indicates that the overall regression model is appropriate for explaining project success and supports the view that successful project implementation requires the combined contribution of effective planning and sound resource management. However, the stronger influence of planning suggests that project managers at Noah Real Estate should prioritize planning and scheduling while ensuring that available resources are effectively coordinated to achieve better project outcomes.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

3. 1 INTRODUCTION

This chapter highlights the summary of major findings, conclusions, recommendations, limitations of study, research gaps and suggestions for future research. The study's main purpose was to explore the impact of factors of planning and resource on project success at Noah Real Estate. The results of the analysis and interpretation presented in Chapter Four are used in the construction of the findings in this chapter.

5.2 Summary of Findings

This study examined the effect of planning and resources on project success in Noah Real Estate. The study used a quantitative research method with 102 respondents, structured questionnaires were used to collect data. Data collected were analyzed descriptively, using Pearson correlation, multiple regression and ANOVA through SPSS software. The findings of the correlation analysis showed that there are positive and statistically significant relationships between planning and resource factors with project success. There were moderate positive correlations between planning and project success ($r = 0.521$, $p < 0.01$) and between resource factors and project success ($r = 0.467$, $p < 0.01$). In addition, planning and resource factors were strongly related to each other. The results of the regression analysis revealed that the model has an R^2 of 0.280 or 28% and an adjusted R^2 of 0.265, which means that the model explains 28% of the variation in the success of the project. This means that planning and resource factors account for 50% of project success. The results of the ANOVA also showed that the overall regression model was statistically significant ($F = 19.222$, $p < 0.001$). The results of the coefficients analysis showed that planning positively and significantly affects the project success ($B = 0.496$; $p = 0.005$). This means that proper planning and scheduling techniques can have a substantial impact on the performance of a project. However, resource factors had a positive but non-statistically significant relationship with project success ($B = 0.133$, $p = 0.297$). Resource factors are positive, however, when incorporating planning into the model they do not make a significant impact on project success alone. The assumption tests performed prior to regression analysis revealed that data fulfilled the assumptions of normality, linearity, multicollinearity, independence of errors and homoscedasticity. Hence, the regression results were assumed to be reliable and valid.

5.3 Conclusion

This study examined the effects of project planning and scheduling factors and resource factors on project success at Noah Real Estate. The findings indicate that project planning and scheduling are the most significant determinants of project success. The regression analysis revealed that planning has a positive and statistically significant effect on project success, demonstrating that well-developed project plans, realistic

schedules, effective coordination, and continuous monitoring contribute to the successful achievement of project objectives. Effective planning enables organizations to minimize project delays, improve communication and coordination among stakeholders, optimize the utilization of available resources, and ensure that projects are completed within the planned time, cost, and quality requirements. The study also found that resource factors have a positive relationship with project success. However, their independent effect was not statistically significant in the regression model. This suggests that although adequate labor, materials, equipment, and technical skills are essential for project implementation, resource availability alone cannot guarantee project success without effective planning and coordination. Therefore, project planning serves as the foundation for ensuring that available resources are properly allocated, managed, and utilized throughout the project life cycle. Furthermore, the findings of the Pearson correlation analysis indicated that both planning and resource factors are positively associated with project success, while the ANOVA results confirmed that the overall regression model is statistically significant. These findings demonstrate that planning and resource factors jointly contribute to project success, although planning exerts a stronger influence than resource factors. This highlights the importance of integrating effective planning with appropriate resource management practices to improve project performance. The regression model explained approximately 28% of the variation in project success, indicating that the selected independent variables have a moderate explanatory power. This also suggests that approximately 72% of the variation in project success is explained by other factors that were not included in this study, such as leadership effectiveness, stakeholder engagement, communication, risk management, financial management, organizational culture, and external environmental factors. Future studies should therefore consider incorporating these additional variables to provide a more comprehensive understanding of the determinants of project success in the Ethiopian real estate sector. Overall, the study concludes that improving planning and scheduling practices should be a strategic priority for Noah Real Estate. Strengthening project planning processes, developing realistic schedules, enhancing coordination among project stakeholders, and ensuring effective monitoring and control throughout project implementation will significantly improve project success. Although effective resource management remains important, its contribution is maximized when supported by sound planning and scheduling practices. The findings provide valuable evidence for project managers and decision-makers at Noah Real Estate to enhance project management practices and improve the successful delivery of construction projects.

5.4 Recommendations

The study results have led to the following recommendations for improving the success rate of the project at Noah Real Estate:

5.4.1 Recommendations Related to Planning and Scheduling Factors

The findings revealed that planning and scheduling have a positive and statistically significant effect on project success. Therefore, Noah Real Estate should strengthen its project planning and scheduling practices by preparing realistic project schedules, defining clear project objectives and milestones, and conducting comprehensive planning before project implementation. Project schedules should be monitored regularly and updated whenever changes occur in project scope or project conditions.

The company should also improve coordination and communication among project stakeholders through regular progress meetings and effective monitoring and evaluation systems. In addition, project managers should use appropriate project management tools and techniques to track project progress, identify potential delays early, and implement corrective actions promptly. These measures will help minimize project delays, improve coordination, and increase the likelihood of completing projects within the planned time, cost, and quality requirements.

5.4.2 Recommended actions for factors of resources and skills

Although resource and skill factors showed a positive relationship with project success, their independent effect was not statistically significant in the regression analysis. Nevertheless, Noah Real Estate should continue to ensure the timely availability of construction materials, equipment, financial resources, and skilled personnel throughout the project life cycle. The company should also invest in continuous training and professional development to enhance the technical and managerial competencies of project staff. Furthermore, effective resource planning, allocation, and utilization should be strengthened to avoid unnecessary shortages and improve operational efficiency. While resource availability alone may not guarantee project success, it remains an essential supporting factor that enables effective project implementation when combined with proper planning and scheduling practices.

5.5 Limitation of the study

The study met the objectives, but there are points that should be noted as limitations. Firstly, the study was only performed at Noah Real Estate, which may restrict the findings from being generalized to other real estate companies and construction organizations. Secondly, the study only included planning and scheduling factors and resource and skill factors as factors affecting the project, other factors like the client related, leadership, communication, financial or external environmental factors were excluded. Thirdly, the study depended on the answers obtained in a questionnaire from the employees and project professionals, which can be biased and perceptional.

5.6 Recommendations for further studies.

Further studies are recommended in other real estate and construction firms to add to the generalizability of the results. Other factors can also be considered, such as client-related ones, leadership practices, stakeholder management, communication effectiveness, financial management, risk management and organizational culture, to get a more complete picture of the factors that influence project success. Moreover, future research can use longitudinal research design to analyze project performance at various project phases and periods of time. It is also recommended that comparative studies involving more than one organization and larger sample size be conducted to give a wider perspective into the considerations for project success in the construction industry.

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ANNEX

Title: *Causes of Project delays and its impact on Project Success: In the case of Noah Real Estate in Addis Ababa, Ethiopia*.

Dear all Respondents,

This questionnaire is design only for academic research examination on the title stated "Causes of Project delays and its impact on Project Success: In the case of Noah Real Estate in Addis Ababa, Ethiopia." All responses remain confidential and only used for academic purpose.

Instructions

Please indicate your level of agreement with following statement.

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

Thank You for your time and cooperation to respond to these questionnaires.

Email Address- Lielttsega@gmail.com

Section 1: Respondent Information

1.1 Gender

Male ☐

Female ☐

1.2 Age

☐

26-35

36-45 ☐

> 45 ☐

1.3 Year of Experience in real estate construction sector

Less than 5 years ☐

6-15 years ☐

16- 25 years ☐

>25 years ☐

1.4 Job Position

Construction Manager ☐

Design Consultant ☐

Design & Supervision Con ☐

Project Coordinator ☐

Project Management Con ☐

Project Manager ☐

Site Engineer/ Supervision ☐

1.5 Role

Contractor ☐

Client ☐

Consultant

Section 2:

2.1 Planning and scheduling related issues

Questions	1	2	3	4	5
Schedules occasionally require adjustment					
Initial timelines difficult to maintain					
Delays increase when scope changes without schedule revision					
Performance declines when planning activities poorly coordinated					
Activities slow when tasks begin without detailed work plans					
Completion difficult when scheduling assumptions unrealistic					

2.2 Recourse and skill related issues

Questions	1	2	3	4	5
Material supply influences workflow					
Technical skill levels influence task performance					
Delays increase when materials delivered late					
Performance decreases when equipment shortages unexpected					
Interruptions when critical materials unavailable on-site					

2.3 Project Success

Questions	1	2	3	4	5
Budget performance is achieved as planned					
Stakeholder satisfaction is achieved in projects					
Project profitability is achieved					
Project objectives are achieved					
A good company reputation is maintained through project performance					