ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

AN ASSESSMENT OF PROJECT TIME MANAGEMENT PRACTICES AND ITS EFFECT ON PROJECT PERFORMANCE IN THE CASE OF NOAH REAL ESTATE

By:

ESAYAS ZEWDIE

Advisor: HAILEMELEKOT B. (ASS. PROFESSOR)

Addis Ababa, Ethiopia

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TABLE OF CONTENT

LIST OF TABLES

LIST OF FIGURES

ABBREVATION AND ACRONYMS

SPSS	Statistical Package for the Social Sciences

ABSTRACT

This study aimed to assess the project time management practices employed by Noah Real Estate in Addis Ababa, Ethiopia. A mixed-methods research approach was used, combining both qualitative and quantitative data collection and analysis methods. The study focused on assessing the use of scheduling tools, schedule tracking and control, time estimation techniques, resource allocation and leveling, project cost performance, project quality, and stakeholders' satisfaction. A total of 45 respondents participated in the study, including

project managers, site engineers, consultants, team leaders, and human resource managers. The results revealed that while there is evidence of the use of various scheduling tools, such as schedule network analysis, leads and lags technique, graphic representation, critical path analysis, and schedule compression, there is also room for improvement in terms of adopting more effective practices. The study found that the majority of respondents disagreed that Critical Path Method (CPM) has been used in Noah Real Estate. However, there was a strong positive attitude towards the use of graphic representation for projects. The study also found that project performance review and trend analysis are not made at regular intervals in Noah Real Estate. Resource optimization techniques are also not widely used in the organization. Earned value/EV/ analysis is also not commonly used in controlling projects. The study's findings provide valuable insights into the project time management practices employed by Noah Real Estate in Addis Ababa, Ethiopia. The results highlight the need for improvement in terms of adopting more effective scheduling tools and practices to ensure successful project delivery. According to the Durbin-Watson test results the value of 2.084 falls within the range of 1.5 to 2.5, indicating that there is no significant autocorrelation between the residuals. This suggests that the residuals are not correlated with each other, and the model is free from serial correlation. Based on the ANOVA table, it appears that the research has found a statistically significant relationship between the independent variables (Resource Allocation and leveling. The study's findings can inform strategies *for improving project time management practices in similar organizations. Overall, this study contributes to the body of knowledge on project time management practices in Ethiopia by providing an assessment of the current state of practice in Noah Real Estate. The study's findings can inform policy makers, researchers, and practitioners on the importance of adopting effective project time management practices to ensure successful project delivery.*

Keywords: Project time management, scheduling tools, resource allocation, communication, project effectiness.

CHAPTER ONE

INTRODUCTION TO THE STUDY

In this chapter, the researcher laid the groundwork for the study by addressing several key components. First, the Background of the Study was provided, giving the necessary context and rationale for the research by presenting relevant background information and highlighting the importance of the topic. Next, the Statement of the Problem was clearly articulated, outlining the specific issue or challenge that this investigation aimed to address. Building on this, the Objectives of the Study were discussed, defining the primary and secondary goals the researcher intended to achieve. Aligned with these objectives, the Research Questions were then presented, ensuring the study's inquiries directly addressed the stated goals. Additionally, the Scope and Limitations of the Study were defined, outlining the boundaries and parameters of the investigation, as well as acknowledging any constraints that may have impacted the findings. Finally, an overview was provided of the Organization of the Study, briefly outlining the content and focus of each subsequent chapter in the research report.

1.1. Background of the study

Project time management is a critical discipline for ensuring the successful delivery of projects within an approved timeline. It involves the processes and techniques used to estimate, sequence, and control the duration of activities to meet project objectives (PMI, 2013). Effective time management practices help project managers and teams plan, monitor, and adapt the schedule to account for various time-related factors.

Key elements of project time management include activity definition and sequencing, duration estimation, schedule development, and schedule control (PMI, 2013). Applying these practices provides numerous benefits such as improved project predictability, reduced risk of delays, better resource utilization, and enhanced stakeholder satisfaction. However, challenges can arise from scope changes, unreliable estimates, schedule conflicts, and unforeseen events that require flexible and proactive management.

The importance of strong time management is underscored by studies showing that project delays and overruns remain pervasive issues across various industries. For example, a recent report by the Project Management Institute found that 43% of projects were delivered late, leading to cost overruns and diminished customer satisfaction (PMI, 2020). Effective time

management is therefore essential for project-based organizations to stay competitive, meet customer expectations, and maximize the return on their investments.

Noah Real Estate Company is a growing property development firm that has undertaken numerous residential and commercial construction projects in recent years. As the company continues to expand its project portfolio, ensuring effective time management has become increasingly crucial to meet client expectations and maintain a competitive edge in the market.

This study aimed to assess the previous project time management practices utilized by Noah Real Estate Company. It examined the specific time management processes, tools, and techniques employed across the company's projects. Moreover, it identified any gaps or areas for improvement in Noah's approach to managing project schedules and durations.

By evaluating the time management practices within Noah Real Estate Company, this research seeks to provide recommendations that can enhance the company's project delivery performance. The findings may help Noah Real Estate Company strengthen its time management capabilities, leading to more predictable project timelines, improved resource allocation, and greater client satisfaction.

The insights gained from this study may also offer valuable lessons for other real estate development firms seeking to enhance their own project time management practices. Overall, this research represents an important contribution to understanding how effective time management can support the successful execution of construction and property development projects.

1.2. Statement of the problem

The construction industry is a vital sector that significantly contributes to the expansion of the national economy. It drives the country's economy by building physical infrastructure (Naveenkumar and Prabhu, 2016). This highlights the industry's importance and its substantial impact on the efficiency and productivity of other industries. Construction projects must be completed successfully and within budget and schedule, which requires a process that necessitates solid engineering judgment (Al-Najjar, 2008).

According to Koshe and Worku's (2016) investigation into the causes of construction delays in Ethiopia, only 8.25% of projects were completed within the originally targeted completion

time. The shortage of materials is the most frequent, critical, and common delay factor in Ethiopia.

Most projects are not completed on schedule, resulting in construction delays that have a significant impact on contractors, consultants, owners, road users, and overall economic disruptions specific to the project area and the country as a whole. Construction delays often lead to projects becoming loss-making operations (Sweis, Sweis, & Abu-Hammad, 2008).

Several studies have been conducted on the construction industry in Ethiopia, focusing primarily on evaluating factors that impact time management. Wondwessen (2019) examined the reasons for delays in completed road projects and assessed the extent to which time overruns occurred in road construction projects within Ethiopia. The study identified 15 prominent factors contributing to delays in road construction projects, including awarding projects to the lowest bid price, inadequate planning, reworks resulting from construction errors, low labor productivity, and delays in progress payments by project owners.

Yeshi's (2021) study examined the factors contributing to time delays and cost overruns in condominium construction in Addis Ababa, focusing on Project 6 housing development. The research findings highlighted that primary factors influencing delays and cost overruns could be categorized into four main areas: client-related aspects (government control), consultant-related factors (design alterations, inadequate inspection, and follow-up), contractor-related factors (poor performance and equipment inefficiency), and external or macroeconomic factors (inflation).

Existing research on time management in Ethiopian organizations has primarily focused on identifying and describing factors contributing to time and cost overruns in various sectors (Konjit, 2011; Haimanot, 2018; Tesfaye, 2017). However, these studies have not delved deeper into the specific relationship between these factors and their impact on effective project time management. This represents a significant gap in the literature, as the construction industry in Ethiopia has experienced rapid growth and increasing project complexity, making it increasingly challenging for firms to meet project deadlines.

Noah Real Estate Company, a leading property development firm in the country, serves as an ideal case study to explore time management practices. As the company continues to expand its project portfolio, ensuring efficient and effective time management has become crucial to meet client expectations and maintain a competitive edge in the market. This study aims to

conduct a comprehensive assessment of Noah Real Estate's project time management practices, focusing on the utilization of time management tools and techniques as well as the extent to which projects are completed on schedule. By providing an in-depth analysis of the factors impacting time management within Noah Real Estate, this research seeks to offer valuable insights that can guide the company in strengthening its project delivery performance. The findings may also hold important lessons for other real estate development firms in Ethiopia seeking to enhance their own time management capabilities.

1.3. Research questions

The research questions for this study were:

1. What was the impact of poor or effective project time management on project cost, quality, and stakeholder satisfaction at Noah Real Estate?
2. To what extent have delays occurred in Noah Real Estate's construction projects?
3. What were the key factors contributing to delays in Noah Real Estate's construction projects?
4. How effective were the project time management processes and procedures currently used by Noah Real Estate?
5. What were the key steps and activities that comprise Noah Real Estate's project time management process?

1.4. Objectives of the study

1.4.1. General objective

The general objective of this study was to assess the project time management practices employed by Noah Real Estate in Addis Ababa, Ethiopia.

1.4.2. Specific objectives

The specific objectives of the study were to:

1. Assess the impact of effective project time management on project cost, quality, and stakeholder satisfaction at Noah Real Estate, as well as to investigate the impact of poor project time management on these same variables.

2. Determine whether or not Noah's Real Estate construction projects exhibit delays and, if so, to examine the extent of these delays.
3. Identify the possible causes of delays, if any, and to analyze their effects on the project outcomes.
4. Examine the project time management process and procedures used by Noah Real Estate, with a view to identifying areas for improvement.
5. Identify the key steps and activities that comprise Noah Real Estate's project time management process, with a focus on streamlining and optimizing these processes.

1.5. Significance of the study

The significance of this study lies in its contribution to the understanding of project time management practices in the construction industry, specifically in the case of Noah Real Estate in Addis Ababa, Ethiopia. The study aims to investigate the current state of project time management practices and identify areas for improvement. This research is significant because it provides valuable insights into the challenges and limitations faced by project managers and teams in the construction industry, and offers practical recommendations for improving project performance.

The findings of this study can be used to inform policy and decision-making at both organizational and national levels. For instance, the study's results can help policymakers develop effective strategies for improving project time management practices in the construction industry, which can lead to increased efficiency, reduced costs, and enhanced customer satisfaction. Additionally, the study's findings can inform organizational leaders about the importance of investing in project time management training and development programs for their employees.

1.6. Scope of the study

Geographically: This study focuses on the project time management practices employed by Noah Real Estate, a company operating in Addis Ababa, Ethiopia. The study aims to assess the effectiveness of project time management practices in this specific context and identify areas for improvement. By exploring the experiences and perspectives of professionals working in Noah Real Estate, this research provides insights into the challenges and opportunities facing project managers in Ethiopia.

Methodologically: This study employs a mixed-methods approach, combining both qualitative and quantitative data collection and analysis methods. The researcher conducted semi-structured interviews with 5 key informants and collected questionnaires from 45 participants. The data was analyzed using descriptive and inferential statistics, as well as coding and thematic analysis. The reliability and validity of the instruments were ensured through the use of Cronbach's alpha coefficient and piloting. This approach allows for a comprehensive understanding of the project time management practices in Noah Real Estate, taking into account both the subjective experiences of professionals and the objective measures of performance.

Conceptually: This study is situated within the broader literature on project management, with a specific focus on project time management. The research draws on theories of organizational behavior, project management, and organizational performance to understand the complexities of project time management. The study explores various aspects of project time management, including scheduling tools, resource allocation, time estimation techniques, and stakeholder satisfaction. By examining these concepts through the lens of Noah Real Estate's practices, this research contributes to our understanding of how organizations can improve their project time management capabilities and ultimately achieve better performance outcomes.

1.7. Limitations of the Study

Despite the significance of this study, there are some limitations that should be acknowledged. Firstly, the population size was limited to a specific group of professionals from three project sites in Addis Ababa, Ethiopia, which may not be representative of all professionals in the field. Secondly, the study relied on self-reported data from the respondents, which may be subject to biases and inaccuracies. Additionally, the study only focused on project time management practices and its effects in Noah Real Estate, and may not generalize to other organizations or industries.

Despite these limitations, the study provides valuable insights into the project time management practices employed by Noah Real Estate in Addis Ababa, Ethiopia. The findings can be used to inform future research and to identify areas for improvement in project time management practices in similar organizations.

1.8. Organization of the thesis

The study was organized into five chapters. Chapter one presented the introduction of the study, including the background, statement of the problem, research question, and objectives of the study. Chapter two included the literature review, which briefly discussed previous works related to the topic. Chapter three presented the research design and methodology, including all the methods and materials used. Chapter four consisted of result analysis and discussion. Lastly, the results from the analysis of collected data were summarized and concluded, and a recommendation was provided for future improvements.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. Theoretical Literature Review

2.1.1 Project management

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet or exceed stakeholder needs and expectations from a project (PMI, 2013). Meeting or exceeding stakeholder needs and expectations inherently involves balancing competing demands among scope, time, cost, and quality. Project management is the application of processes, methods, knowledge, skills, and experience to achieve project objectives.

The term project management is sometimes used to describe an organizational approach to the management of ongoing operations. This approach, more properly called management by projects, treats many aspects of ongoing operations as projects in order to apply project management to them. "Managing by projects" is an organizational strategy that applies project management disciplines to an organization's regular operations and workflows, in contrast to just using project management for specific, discrete projects (PMI, 1999).

According to Kerzner (2009), a project can be considered any series of activities and tasks that have a specific objective to be completed within certain specifications, have a defined start and end date, have funding limits (if applicable), consume human and non-human resources, and is multifunctional.

As Besner and Hobbs (2006) contend, proven principles and an emphasis on the benefits of standard processes and measured performance have spawned project management's most widely used tool. The theory of scientific management, as asserted by Taylor (1998, 2007), is to: (a) discover the one right way to implement job activities; (b) define clearly the roles and responsibilities for each member of staff; (c) personally direct personnel and motivate the workforce through the mechanism of reward and punishment; and (d) manage activities through effective planning and control systems.

Cooper and Taylor (2000) and Hough and White (2001) argue that the principal objective of management should be to secure maximum prosperity for the employer and each employee through effective management practices.

Although Taylor's theory is true from a human element perspective, Drucker (1954) defines management as an organized body of knowledge, a practice rather than a science that is based on knowledge and responsibility. Drucker's five management practices can effectively enhance project success: effective time management; strategic decisions about what contributes to the growth of the practical organization; knowledge and understanding of where and how to mobilize strength for best results; the right priorities; and linkage of all of the management variables to effective decision-making.

Project practitioners have entrenched the core principles of scientific management (Buunk & Gibbons, 2007), such as benchmarking, process design, and work optimization. They have also effectively incorporated Drucker's modern management principles into their project management practices, including developing effective knowledge work systems by adopting Drucker's ideas around creating efficient, knowledge-driven work processes and systems within their project environments (Eschenbach, 2010; Kozak et al., 2003).

In addition, project managers have worked to institutionalize a culture of innovation within their organizations. By embedding new ideas and approaches, they are able to continually improve and enhance their project delivery capabilities (Wallman, 2010). Finally, project practitioners have prioritized maintaining a stakeholder-focused approach. By being responsive to the needs and expectations of key project stakeholders, they are better able to align their efforts and achieve project success (Barwise & Meehan, 2010).

This blending of modern management theory and practical project management has proven to be a powerful formula for many organizations. Organizations use governance to establish strategic direction and performance parameters. Project management activities should be aligned with top-level business direction, and if there is a change, then project objectives need to be realigned. When the business alignment for a project is constant, the chance for project success greatly increases because the project remains aligned with the strategic direction of the organization (PMI, 2013).

2.1.2. Time Management

Time management is a crucial factor in construction management. The importance of time management is reflected in the numerous research outputs published in this knowledge area. A system, comprising guidelines, techniques, abilities, tools, and concepts, known as time management enables individuals to use their time effectively and achieve their goals. The

procedures necessary to ensure that a project is completed on schedule are included in project time management (PMI, 2017).

Time management in project management refers to the practices and techniques used to effectively plan, schedule, monitor, and control the time-related aspects of a project. It helps ensure that projects are completed within the allocated timeframe, deadlines are met, and the intended goals are achieved. There are software applications available that can be used by project teams to manage their time and other aspects, including managing long-lead items, finalizing project milestones, and tracking the project budget. Although there are various types of software available, many project managers and teams find it challenging to choose the best and most efficient software application for tracking project activities (Leal et al., 2018).

Effective time management is essential in construction projects for several reasons, including meeting project deadlines, resource allocation, cost control, stakeholder satisfaction, risk mitigation, and quality control. Failure to implement proper time management practices can lead to various issues, such as excessive overtime and budget overruns. Delays have been identified by experts as a significant problem in the construction industry globally, resulting in project disruptions and financial losses. Instead of progressing as anticipated, construction work often slows down, causing time to elapse. These delays affect all project stakeholders and can have a direct impact on potential profits that could have been generated if the project had been implemented successfully (Yang, 2011).

In the context of project management, time is a critical factor that encompasses the duration, sequence, and deadlines associated with the successful completion of a project (PMI, 2017). The concept of time management in project management refers to the processes and techniques used to effectively plan, organize, and control the time required to execute project activities and achieve project objectives within the specified timeframe (PMBOK, 2021).

The key elements of time management in project management include project scheduling, time estimation, time tracking, time control, and time reporting (PRINCE2, 2017). Project scheduling involves developing a detailed schedule that outlines the sequence, duration, and interdependencies of project activities, milestones, and deliverables (Meredith & Mantel, 2020). Time estimation requires accurately estimating the time required to complete each project activity, considering factors such as resource availability, productivity, and potential

delays (PMI, 2017). Time tracking involves continuously monitoring the progress of project activities and comparing actual time spent against the planned schedule to identify and address any deviations or delays (PMBOK, 2021). Time control encompasses implementing control measures to ensure that the project stays on track, such as adjusting the schedule, reallocating resources, or implementing mitigation strategies to address time-related risks and issues (PRINCE2, 2017). Finally, time reporting involves regularly communicating and reporting on the project's time performance to stakeholders, including any variances from the original plan and the actions taken to address them (Meredith & Mantel, 2020).

Effective time management is crucial for ensuring that projects are completed within the specified timeframe, budget, and scope while meeting stakeholder expectations (PMI, 2017). By adopting best practices in time management, project managers can optimize resource utilization, minimize delays, and enhance overall project success (PMBOK, 2021).

Effective time management is a critical factor in achieving successful outcomes across various domains. The ability to allocate and utilize time efficiently and productively has a profound impact on individual performance, organizational effectiveness, and overall project success. As a result, understanding the factors that contribute to effective time management and identifying strategies to improve it has garnered significant attention from researchers and practitioners alike.

2.1.3 Theories Related to Time Management

Time management is not simply about controlling the passing seconds, but rather about how individuals manage their own behavior and activities in relation to time. In this regard, it is guided by management and behavioral theories. Management theories have traditionally focused on the formal relationships between an organization's departments, tasks, and processes, with the aim of enhancing efficiency and productivity among workers (Kwok, 2014). These theories, including bureaucratic, administrative, and scientific management, emerged in the late 19th to early 20th centuries (Kwok, 2014).

In the context of time management, the approach adopted leans more towards administrative and scientific management theories, as opposed to the rigid bureaucratic approach. According to Kwok (2014), administrative management is primarily concerned with how an organization is operated and the fundamental functions of management, such as planning, organizing, leading, and controlling. In contrast, scientific management emphasizes the

systematic study of work methods to improve individual and organizational productivity (Kwok, 2014).

The application of these management theories to time management practices helps individuals and organizations optimize the use of time, reduce waste, and improve overall efficiency and effectiveness.

The scientific management theory focused primarily on production, management, organization, technology and science and is probably the most well-known among the traditional theories, and comprises of four basic objectives the development of a science for each element of a man's work to replace the old rule-of thumb methods; the scientific selection, training and development of workers instead of allowing them to choose their own tasks and train themselves as best they could; the development of a spirit of hearty cooperation between workers and management to ensure that work could be carried out in accordance with scientifically devised procedures; and the division of work between workers and the management in almost equal shares, each group taking over the work for which it is best fitted instead of the former condition in which responsibility largely rested with the workers.(Taylor, 1911)

The behavioral theories, which emerged in the 1920s, stress the importance of group dynamics, complex human motivations, and the manager's leadership style (Kwok, 2014). The theory also emphasizes the employee's social and economic needs and the influence of the organization's social setting on the quantity and quality of work produced, and its focuses on two competencies- communication and teamwork.

Both the management and behavioral theories have stressed the importance of adhering with certain principles, processes and practices that will ensure effective and efficient project operation with the resultant success in project delivery. The management and behavioral theories are in consonance with the work of Ugwu and Attah (2016) that identified economic policy, political consideration, management style and motivation of workers as relevant in construction management. As such, to ensure successful construction project delivery there is need for a holistic approach in terms of managing ourselves towards time "behavioral" and managing construction activities "administratively and scientifically".

2.1.4 Project Delivery

Construction deliverables represent the ultimate objective of any project and serve as the criteria by which stakeholders in the construction sector evaluate the success or failure of a project. According to Chan and Kumaraswamy (2002), the timely completion of construction projects within the anticipated cost and quality standards determined by the owner is a key indicator of successful project delivery. Ibironke and Elamah (2011) further assert that clients, when engaging professionals for building or infrastructure procurement, prioritize considerations of quality, time, and cost. Furthermore, Ibrahim (2020) and Hao et al. (2018) reported that over one-third of major client's express dissatisfaction with contractors' performance in terms of adhering to the quoted timelines and budgets.

2.1.4.1 Importance of project Time Management

Based on study carried out in Thailand, project completion by considering time performance cover the high priority compare other parameters to ensure project success based on target (Lindgren, 2019). In addition, poor time management performance in building construction would lead into time extension, conflict and failure in project delivery. Many construction projects have experienced poor time performance due to several factors such as over cost, reworks due to unsatisfactory work results and material delivery problem (Usman, 2014).

According to the PMBOK Guide (2000), project time management is a critical knowledge area that encompasses the processes required to ensure the timely completion of a project. The process includes activity definition, activity sequencing, activity resource estimating, activity duration, estimating schedule development, and schedules control. (Ogundipe, 2018).

The effectiveness of a project's time management practices can serve as a relevant indicator to assess the capability and performance of contractors in successfully completing a project (Rómel, 2009). Thus time management processes interact with each other and with the processes in the other knowledge areas. They may involve the efforts of one or more individuals or groups, depending on the project's needs, and generally occur at least once in every project phase. In smaller-scope projects, some of these time management processes, such as activity sequencing, duration estimating, and schedule development, can be so closely linked that they are often viewed and executed as a single, streamlined process (Han and Cline, 2015).

The time model in construction refers to the project schedule or timeline that is used to plan, manage, and monitor the timing and sequence of work activities on a construction project. The primary purpose of the time model is to indicate the future sequence and timing of the planned work, enabling the prediction, communication, and efficient management of any changes or deviations from the original intention. Given that the time model can only be as accurate as the current knowledge allows, it must be conceived as a dynamic tool that can be improved upon as new information becomes available or circumstances evolve. To facilitate effective time management, the time model should be structured to differentiate between the various work elements that can be predicted. This allows the employer and the professional team to track the contractor's progress, determine if they are on target to meet key dates and the contract completion date, and provide the necessary information to manage any adjustments to the time required to complete the project.

The purpose of the time model is to indicate the future sequence and timing of the planned work, enabling the prediction, communication, and efficient management of any changes or deviations from the original intention (Wu and Rank, 2019). Given that the time model can only be as accurate as the current knowledge allows, it must be conceived as a dynamic tool that can be improved upon as new information becomes available or circumstances evolve. To facilitate effective time management, the time model should be structured to differentiate between the various work elements that can be predicted. This allows the employer and the professional team to track the contractor's progress, determine if they are on target to meet key dates and the contract completion date, and provide the necessary information to manage any adjustments to the time to complete (Adebayo, 2018; Ugwu and Attah, 2016).

2.1.5 Factors Influencing Time Management

The extant literature on construction project management overwhelmingly emphasizes three key performance deliverables: timely completion, quality standards, and adherence to cost estimates (PMI, 2017). Among these critical success factors, researchers have consistently underscored the pivotal role of effective time management in ensuring the successful delivery of construction projects (Abdulkadir, 2017; Egwunatum, 2017; Hao, 2018).

Given the paramount importance of time management in project success, it is crucial to systematically identify and analyze the key factors that influence this critical project management process (Marrelli, 2018). Accordingly, this study has drawn from a

comprehensive review of relevant academic sources to catalog and examine the various determinants that shape the time management practices and outcomes in construction projects.

The extant literature on project management highlights several factors that significantly influence time management. Chief among these are principles regarding time management, competence of the project manager, their resource planning capabilities, and the effectiveness of stakeholder communications and monitoring/controlling processes (Project Management Institute [PMI], 2017; Zidane & Andersen, 2018).

Project manager competence, encompassing skills in areas such as planning, scheduling, and risk management, has been identified as a critical determinant of efficient time management and, by extension, overall project success (Müller & Turner, 2010; PMI, 2017). Furthermore, the project manager's resource planning capabilities, including the accurate estimation of task durations and effective management of resource availability, can have a substantial impact on the team's ability to meet project deadlines (PMI, 2017; Zidane & Andersen, 2018).

Equally important is the quality of stakeholder communications, where project managers keep all relevant parties informed and aligned throughout the project lifecycle (PMI, 2017; Xia & Lee, 2004). Effective stakeholder management, coupled with robust monitoring and controlling processes, can further contribute to efficient time management and, ultimately, project success (PMI, 2017; Xia & Lee, 2004).

Collectively, these factors, rooted in the existing body of academic research, shed light on the multifaceted nature of time management in construction projects and underscore the need for a comprehensive understanding of their respective impacts on project outcomes (Marrelli, 2018; Zidane & Andersen, 2018).

The findings from this in-depth literature analysis will provide valuable insights into the complex interplay between time management and other project management processes, as well as inform the development of robust time management strategies and frameworks. By elucidating the critical determinants of effective time management, construction practitioners and scholars can better equip themselves to navigate the inherent challenges of delivering projects within the planned timeline and budget, while maintaining the desired quality standards. (Abdulkadir, 2017; Egwunatum, 2017; Hao, 2018).

2.1.5.1 Principles Influencing Time Management

The principle (The Key principles of effective time management includes elements of all principles (planning, organizing, responsibility, accountability and integrity) of effective time management. It is the 10/90 Rule of Effective Time management (the Rule of Indispensability). It states that 10% of time that managements take to plan activities carefully in advance will save 90% of the effort involved in achieving the intended goals later (Hisrich and Peters, 2012).

The project management literature has primarily focused on identifying factors that influence time management, such as project manager competence and resource planning capabilities (PMI, 2017; Zidane & Andersen, 2018). However, a knowledge gap exists regarding the specific principles that guide successful time management, particularly for timely project completion (Yang, 2011).

Scope management is a crucial determinant of effective time management (PMI, 2017). This knowledge area encompasses processes like defining the project scope, establishing requirements, creating the work breakdown structure, and managing the scope baseline (PMI, 2017; Yang, 2011). Effective scope management, underpinned by robust principles, can significantly contribute to the timely completion of construction projects (Abdulkadir, 2017; Egwunatum, 2017; Hao, 2018).

Two key principles-related factors emerge as particularly influential on time management: project manager competence and resource planning capability (Müller & Turner, 2010; PMI, 2017; Zidane & Andersen, 2018). Competent project managers skilled in planning, scheduling, and risk management are better equipped to ensure timely project delivery (Müller & Turner, 2010; PMI, 2017). Similarly, the ability to accurately estimate task durations and manage resource availability is a critical principle shaping time management outcomes (PMI, 2017; Zidane & Andersen, 2018).

2.1.5.2. Resources Planning Capability

The very act of the manager of thinking through and planning his/her work in advance will dramatically reduce the amount of time that will take him/her to do the actual job. The planning principle gives rise to the principle of clarity which means writing and re-writing out the goals/activities one wishes to accomplish.

In construction industry, resource management involves material resources, machinery, daily laborer and employees which are all to be scheduled properly and to be used appropriately. Usman and Kamau (2014) explain an optimized use of resources will lead to reduction in the project cost with effective resource management program. In the absence of resource management or poor program the project will slip from its scheduled targets and pose number of issues like cost escalation, material and labor wastages, idling of machinery timings (Brill, 2016).

2.1.5.3 Project Manager Competence

Project management is the driving force for the completion of the project. Competence/ knowledge of the management, application of methods and the efficiency of using latest tools and techniques are key factors to improve the success and completing within the specified duration of the project (Brill, 2016). In practice, project manager's knowledge on principles of time management is very crucial for completion of a project in particular. Diallo and Thuillier (2012) argue that if businesses are to become high-performance organizations, they must have employees who possess the right skills, abilities, and mindsets. When sufficient numbers of appropriately skilled workers cannot be found or trained organizational performance is bound to suffer. Keeping skilled employees onboard can be problematic, too. Project manager's influence on project performance is undeniably crucial (Turner, 2015).

One of the factors that influence project success is hiring competent project managers (PMI, 2017). Robert (2019) considers project manager competency as the knowledge in regards to what project manager knows about the management of the project; how project manager uses his or her knowledge; and what is the behavior of the project manager when managing the project. According to Brill (2016), competent project managers consistently apply their project management knowledge and personal behavior to increase the likelihood of delivering project that meet stockholder's requirement. Project Management Competency Development (PMCD) was prepared by PMI (2010) to define successful project manager's competencies. The framework consists fifteen unites of competencies which are integration, scope, time, cost, quality, risk, human recourse, communication, procurement management, achievement and action, helping and human service, impact and influence, managerial, cognitive, and personal effective.

Project managers should acquire strong technical knowledge and strategic thinking to hinder any breakdown in construction projects.

2.1.5.4 Processes Influencing Time Management

Project time management encompasses a series of interconnected processes that are crucial for ensuring the timely completion of a project (Project Management Institute [PMI], 2013). According to the PMBOK Guide, the key time management processes include plan schedule management, define activities, sequence activities, estimate activity resources, estimate activity durations, develop schedule, and control schedule (Ogundipe, 2018).

For the purpose of this research, which focuses on "Project Time Management Practice," the study will concentrate specifically on the scheduling and controlling processes as the primary factors influencing time management. The scheduling process encompasses the development and maintenance of the project schedule, which serves as a roadmap for the planned work and a tool for predicting, communicating, and managing deviations from the original plan (Wu & Rank, 2019). Effective scheduling practices, such as accurately defining activity sequences and durations, are essential for creating a feasible and reliable time model.

The controlling process involves monitoring the project's progress against the schedule and taking necessary actions to ensure the work is completed within the planned timeline. This includes identifying and managing any deviations or changes that occur during the project execution phase. By examining both the scheduling and controlling processes, and their impact on overall time management practices, this study aims to provide valuable insights that can inform the development of more robust time management strategies in the construction industry. The findings will shed light on the critical components of time management and their influence on the successful delivery of construction projects within the planned timeline (Ogundipe, 2018)

2.1.5.5. Scheduling Processes

Scheduling involves the process of identifying and documenting relationships among the project activities. Project work schedule is known as coordinating resources of works, machines and materials timeously, in order to complete a construction project within budget (Wu and Rank, 2019). Similarly, Beauregard (2019) defines work scheduling as the relationship among schedule elements that are governed by various factors such as project constraints, construction methods, code of conduct, and regulations. Hence, there is a need to

develop an adequate work schedule for construction projects, in order to successfully deliver the project on time and within the client's budget. However, Sigalov (2017) contends that companies are faced with challenges in developing an adequate work schedule for construction projects. This is corroborated by Han and Cline (2015), who maintain that there is a lack of detailed planning by firms in terms of the work schedule, and subsequently and consequently a failure to capture all operational levels of activities such as reinforcement, formwork, and waterproofing on concrete.

2.1.5.6 Stakeholder Communication Process

To mitigate project related outstanding issues, progress meeting is regarded as the most important tool used to ensure that the project is successfully delivered with respect to time, cost and quality (Ayodeji and Clinton (2016). They further state that all issues arising on a project are discussed and resolved during the site progress meeting. Similarly, Gorse and Emmitt (2019) explain that firms need to have project progress meetings on a regular basis throughout the project delivery, in order to review the construction project time frames. Nonetheless, Emmitt and Otter (2017) view the progress meeting as a shared dialogue, where the design team exchanges the meanings and understandings of the project with the construction team involved. In addition, Salehi and Yitmen (2020) allude to the fact that site meetings are the way of project data acquisition system adopted by small and medium sized enterprise (SMEs) to enable accurate project knowledge about processes and operations on a job site. Hence, it is imperative to improve the flow of construction progress by adopting site meetings and formalizing effective implementation of site progress meetings (Alvares & Costa, 2019).

To summarize, the literature highlights the essential role of regular, structured project progress meetings in facilitating communication, resolving issues, monitoring timelines, and promoting effective project delivery across different types of construction organizations.

2.1.5.7. Project Monitoring and Controlling Practice

Project monitoring is a critical process in the project management lifecycle, characterized by the close observation and control of project activities to ensure they align with the overall plan (Yang & Park, 2015). Effective project monitoring is essential for construction companies to anticipate and mitigate potential schedule delays and exceptions at the early stages of the project (Yang, 2015).

However, research suggests that construction companies often lack adequate skills and capabilities in monitoring projects at the operational level, leading to project delays and cost overruns (Yang, 2015; Omar, 2016). A key challenge faced by construction organizations is the need to proactively manage project time frames and maintain operational productivity through prompt action on construction project delivery systems (Omar, 2016).

The extant literature emphasizes the importance of robust project monitoring and controlling practices to ensure the successful delivery of construction projects within the planned timeframes and budgets (Yang & Park, 2015; Omar, 2016). Construction companies must develop and implement comprehensive monitoring and controlling strategies that enable the early identification and resolution of potential issues, thereby enhancing project performance and outcomes (Yang, 2015; Omar, 2016).

2.1.5.8. Practices Influencing Time Management

Effective time management is a critical success factor for real estate development projects, as delays and missed deadlines can have significant financial and reputational consequences for real estate companies (Odusami et al., 2003; Alzahrani & Emsley, 2013). The existing literature has identified several key practices that influence time management in the context of real estate project including practices in project planning and scheduling, resource and risk management.

2.1.5.9 Project Planning and Scheduling Practices

Robust project planning and scheduling practices are foundational to effective time management in real estate projects (Aziz, 2013; Alzahrani & Emsley, 2013). This includes the development of comprehensive work breakdown structures, realistic activity duration estimates, and well-coordinated project schedules that account for dependencies and potential risks (Aziz, 2013; Olawale & Sun, 2015). Real estate companies that excel at project planning and scheduling tend to experience fewer delays and better overall time management performance (Alzahrani & Emsley, 2013; Aziz, 2013).

2.1.5.10 Resource Management Practices

The effective management of human, financial, and material resources is another critical practice influencing time management in real estate projects (Odusami et al., 2003; Olawale & Sun, 2015). This includes accurately forecasting resource requirements, securing commitments from suppliers and subcontractors, and efficiently allocating and deploying

resources throughout the project lifecycle (Odusami et al., 2003; Aziz, 2013). Real estate companies that demonstrate strong resource management capabilities are better equipped to mitigate delays and maintain project schedules (Olawale & Sun, 2015; Alzahrani & Emsley, 2013).

2.1.5.10. Risk Management Practices

Proactive risk management is a key practice that can significantly impact time management in real estate projects (Aziz, 2013; Olawale & Sun, 2015). This encompasses the systematic identification, analysis, and mitigation of potential risks that could disrupt project schedules, such as unforeseen site conditions, regulatory changes, or supply chain disruptions (Olawale & Sun, 2015; Alzahrani & Emsley, 2013). Real estate companies that excel at risk management are better able to anticipate and respond to schedule threats, thereby improving overall time management performance (Aziz, 2013; Odusami et al., 2003).

In conclusion, the extant literature highlights several critical practices that influence time management in real estate projects, including project planning and scheduling, resource management, and risk management. Real estate companies that focus on developing and implementing robust practices in these areas are more likely to achieve successful time management outcomes and timely project delivery (Alzahrani & Emsley, 2013; Olawale & Sun, 2015)

2.2 Empirical review

The empirical evidence highlights several crucial factors that influence time management in construction projects. Studies by Iyer and Jha (2015) and Ajayi (2010) found that the project manager's competence, including effective planning, scheduling, and coordination skills, is a significant factor in enhancing project quality and timely completion. Likewise, Meng (2012) emphasized that the project manager's leadership and decision-making abilities are critical for successful project delivery, as they directly impact the team's productivity and the overall project timeline.

Iyer and Jha (2015) also highlighted that top management support is critical for successful time management in construction projects. Top management's commitment, resource allocation, and oversight can significantly influence the project team's ability to plan, execute, and monitor project activities within the established time frames. Khosravi and Afshari

(2011) corroborated these findings, noting that top management's active involvement and provision of necessary resources are essential for effective project time management.

Both Iyer and Jha (2015) and Indhu and Ajai (2014) identified the shortage of skilled, semi-skilled, and unskilled labor as a key contributor to construction delays. Adequate availability and efficient utilization of skilled workers are essential for maintaining productivity and ensuring the timely completion of construction activities. Enshassi et al. (2009) further reinforced the importance of skilled manpower, finding that the lack of qualified personnel was one of the most significant factors leading to project delays in money projects.

Effective site management, including supervision, coordination, and resource allocation, was also found to be crucial for the timely completion of construction projects. Iyer and Jha (2015) and Indhu and Ajai (2014) found that poor site management can lead to inefficiencies, delays, and disruptions, which can adversely impact the overall project timeline. Doloi et al. (2012) supported these findings, emphasizing that effective site management, with a focus on communication and coordination, is critical for project success.

Finally, Ajayi's (2010) research emphasized the critical role of the contractor's selection and performance in the success or failure of a construction project, including its impact on time management. Effective contractor management, including performance evaluation and monitoring, can help ensure that construction activities are completed within the scheduled time frames. Navon and Berkovich (2005) further highlighted the importance of contractor performance, noting that the contractor's ability to meet project requirements and deadlines is a key determinant of project success.

In summary, the empirical evidence from multiple studies underscores the interdependent nature of these factors, which collectively contribute to effective time management and the successful completion of construction projects.

2.3. Conceptual Framework

The project quality, project cost, and stakeholder satisfaction represent the dependent variables in this framework. These factors are the primary objectives that the company aims to achieve through their construction projects. Project quality encompasses elements such as adherence to specifications, attention to detail, and overall workmanship. Project cost refers to the efficient management of budgets and expenses, while stakeholder satisfaction measures

the extent to which the project meets the expectations and needs of the various stakeholders involved, such as clients, end-users, and the broader community.

The time management practices employed by the Noah Real Estate Company are the independent variable in this framework. These practices, which include the specific techniques, strategies, and approaches used to manage project timelines and schedules, are examined in the context of their influence on the dependent variables of project quality, project cost, and stakeholder satisfaction. The researchers seek to understand how the company's time management efforts impact the successful delivery of construction projects, as measured by these key performance indicators.

Figure 1 ***Conceptual Framework***

By analyzing the relationships between the independent variables and the dependent variable, the research aims to provide valuable insights into the effectiveness of the Noah Real Estate Company's time management practices and their influence on the overall success of their construction projects. These findings can then be used to develop strategies and recommendations for improving time management practices within the company and the broader construction industry, ultimately enhancing project performance and stakeholder satisfaction.

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.0. Introduction

This part of the research presents the methodological aspects of the research, which include the research design, research approach, sampling design, data types and sources, research instruments and measurements, methods of data collection, data analysis, validity and reliability, and ethical considerations.

1.1. Research Approach

The study used a qualitative and quantitative research approach which was suitable for its explanatory nature. This enabled the researcher to provide rich description and depth understanding about gaps in their time management practice.

1.2. Research Design

According to Saunders, Lewis, and Thornhill (2009), research design refers to the general plan of how the researcher went about answering the research question. It includes clear objectives, derived from the research question(s), specifies the sources from which the researcher intends to collect data, and considers the constraints that would inevitably arise, as well as discussing ethical issues.

In light of these objectives, this study preferred and employed descriptive and an explanatory research design. This was because it was flexible enough to provide an opportunity for considering all aspects of the problem in project time management and defining the problem correctly. Both qualitative and quantitative research approaches were used, which can be combined with descriptive and an explanatory research design. Data were collected using semi-structured interviews and questionnaire methods, which were appropriate for addressing the issue. After collecting data through these instruments, it was analyzed, and the results were summarized; possible recommendations were made accordingly.

1.3. Total Population and the Sampling techniques

3.3.1 Population

Castillo (2009) defines target population as, referring to the entire group of individual or object to which researchers are interested in generalizing the conclusion. Another scholar (Shao, 2019) defines that a population can be defined as the complete set of subjects that can be studied: people, objects, organizations from which a sample may be obtained. For this research, the target population is professional staffs engaged in the selected project sites offices of (Ayat, wesen, and kassanches) site offices. To insure the inclusion of relevant perspectives, The researcher incorporated various stakeholders within the project, including contractors, site engineers, consultants, and selected employees. According to their office, the number of permanent professional staff working in the three projects was fifty, excluding daily laborers.

3.3.2 Sampling Technique

From the four known main sites, three offices (Ayat, Wesen, and Kassanches) were selected using convenience or opportunistic sampling,since the size of the population is small in size(50),buy consensus with the advisor all the population is considered and a questionnaire was collected from all. The three site offices were selected by convenience. Convenience or opportunistic sampling involves selecting samples that are convenient, easy, and relatively inexpensive to access. These three project offices had well-organized and dedicated project management offices with readily available participants, and the researcher believed that the data gathered from these site offices would fit the parameters of the project's research question, goals, and purpose.

Purposive sampling techniques were employed to select staff for both interviews and questionnaires because using purposive sampling for both interviews and questionnaires can enhance the quality and relevance of the data collected. Respondents were selected based on their specialized insights or special perspectives, experience, characteristics, or conditions because there was something the researcher wished to gain and understanding of. The participants included project managers, site engineers,team leaders, and human resource managers. For interview purposes, the researcher planned to interview five staff members: two site engineers, two project managers, and one human resource manager. For questionnaire purposes, since the population is small(50),all the population were incorporated which is a census approach and forty five of the responds were participated.

3.4. Data collection methods and Instruments

The researcher generally followed two types of instruments, namely interview and questionnaire, which were used for data collection.

3.4.1. Interview

To ensure the validity and relevance of the study, conducting interviews with individuals who had a direct relationship with the subject matter was of utmost importance. By carefully selecting and engaging with the right participants, the researcher gathered firsthand insights and perspectives that were crucial for addressing the research objectives effectively. These individuals possessed the knowledge, expertise, and experiences that were directly relevant to the study, allowing us to obtain in-depth and valuable information. Through conducting interviews with such individuals, the researcher aimed to cover substantial and meaningful findings that contributed significantly to the overall understanding of the topic at hand.

3.4.2 Questioners

By employing questioner the researcher can efficiently collect standardized data from a diverse range of respondents, maintaining consistency, ensure participants privacy and draw meaningful conclusions through quantitative analysis, all being cost-effective.

3.5. Methods of Data analysis

In the data analysis part both descriptive and inferential statistics were implied. The analysis was anchored to the statement of the problem, research objectives, and research questions. To analyze and interpret the collected data, both qualitative and quantitative data analysis methods were employed. The data was prepared by transcribing interview recordings and organizing questionnaire responses into a suitable format. Following this, a coding process was undertaken to identify meaningful units within the data, assigning descriptive codes to categorize and organize the information. From the coded data, common themes and patterns were identified, representing recurring topics or concepts. Exploring these themes involved a detailed examination of the data within each theme, looking for variations, examples, and supporting evidence. Interpreting the data was a crucial step, as it involved analyzing and deriving insights from the findings. This process enabled me to understand the relationships, connections, and implications of the data in relation to my research objectives.

3.6. Reliability and validity

3.7.1 Reliability

Reliability measures the consistency, dependability and stability of the data. And this is used to measure how dependable and consistent the result can be by investigating data measurements used for the variables (Cooper & Schindler 2006). Therefore, the measurement can be called reliable if the result of a second measurement gives the same result to the first one. But if they give different results, then it is unreliable measurement and result (Mugenda 2008).

The reliability of instrument used for data collection can be measured by using Cronbach's alpha coefficient. And Zinbarg (2005) suggested that alpha coefficient equal or greater to 0.70 indicates that the data is reliable and therefore it can be concluded that the results drown from the collected data can reflect all respondents' opinion in the target population.

Table 1: Reliability analysis using Cronbach's alpha coefficient

NO.	Variables	Cronbach's Alpha	No. Of Items
1	Use of Scheduling tools	0.841	5
2	Schedule Tracking and Control	0.848	5
3	Time Estimation Techniques	0.878	5
4	Resource Allocation and leveling	0.795	5
5	Project cost performance	0.795	5
6	Project Quality	0.780	5
7	Stakeholders Satisfaction	0.710	5
	Over all	0.947	35

The table above indicates all Cronbanch's alpha value is greater than 0.7, which means all items are reliable and data has internal consistency and able to be accepted for further analysis.

3.6.2 Validity

Validity was achieved when the survey's methodology and research data were accurate and true. In relation to the topic of the study, the researcher tried to adopt the instruments from different related literatures in order for the instrument to truly measure what it intended to measure. Before developing them, the researcher linked the questions to the objectives of the study.

Finally, the researcher examined or tested the instrument by consulting subject matter experts in the area, such as the research advisor and course instructors, to check the content and face validity. Additionally, feedback was collected from the selected sample respondents to incorporate it into the questionnaire.

3.7. Ethical considerations

The study aimed to evaluate the practice of project time management. Before data collection,awairness was created on the objectives and methodology. The utmost confidentiality was maintained throughout the study. Participants were provided with clear and comprehensive information regarding the purpose of data collection. They were assured that their personal information would not be disclosed to any third parties without their explicit consent. Furthermore, participants were informed that the collected data would be used solely for academic purposes. To ensure participant privacy, all identifiable information, including names, was not used in the study. Participants were invited to voluntarily take part in the research and responded based on their own discretion.

CHAPTER FOUR

4. DATA ANALYSIS, RESULTS AND PRESENTATION

4.1. Introduction

The primary objective of this chapter is to assess the project time management practices employed by Noah Real Estate in Addis Ababa, Ethiopia. This chapter outlines the steps taken for data processing, result interpretation, and findings presentation. The analysis of questionnaire data was conducted using descriptive and inferential statistics with the aid of the SPSS tool.

This chapter is organized into three sections. The first section discusses the response rate of questionnaires and demographic background information. The second section presents a descriptive analysis. The third section utilizes Inferental analysis to assess the project time management practices. The results are presented in tables and figures, which are thoroughly explained and interpreted.

4.2. The Response Rate of Questionnaires

The primary data was obtained from a questionnaire, which consisted of closed-ended questions. The questionnaires were distributed to 50 individuals from the three selected sites and data collection methods described in Chapter Three. Based on the analysis of response rates, it can be concluded that 45 questionnaires were properly completed and responded to. According to Mugenda (1999), a response rate of 50% is considered adequate, 60% is considered good, and 70% or higher is considered excellent for representing the entire population. Therefore, the response rate for this research was over 90%, which is ideal for accurately representing the entire population.

4.3 General Information about Respondents

This section presents an analysis of the personal information of the respondents, including gender, age, education level, specialization area, position/role in the company, and year of

work experience. The table below presents the frequency and percentage distribution of the respondents' characteristics.

Table 2: Demographic characteristics

Background		**Frequency**	**Percentage**
Gender	Male	32	**71.1%**
	Female	13	**28.9%**
	Total	45	**100%**
Age	24-30	12	**26.7%**
	31-40	24	**53.3%**
	41-50	5	**11.1%**
	51-60	4	**8.9%**
	Total	45	**100%**
Education level	Diploma	-	**-**
	BSc/MA	27	**60%**
	MSc	18	**40%**
	PhD	-	**-**
	Total	45	**100%**
Specialization area	Building	39	**86.67%**
	Water Works	6	**13.33%**
	Total	45	**100%**
position/role in the company	Project Engineer	19	**42.2%**
	Project Coordinator	9	**20%**

	Office Engineer	8	**17.8%**
	Site Engineer	9	**20%**
	Total	45	**100%**
Year of work experience	1-5 years	18	**40%**
	6-10 years	11	**24.4%**
	11-15 years	7	**15.6%**
	Above 15 years	9	**20%**
	Total	45	**100%**

Source: own Survey, 2024

The study's population consists of 45 participants, with a majority being males (71.1%) and females (28.9%), representing project time management practices in Noah Real Estate, Addis Ababa, Ethiopia. The age distribution of the participants is relatively diverse, with 26.7% falling within the 24-30 age range, 53.3% between 31-40, and 11.1% between 41-50. Only 8.9% of the participants are above 51 years old, indicating that the majority of the participants are young professionals in their prime working years.

In terms of education level, the majority of the participants hold a Bachelor's or Master's degree (60% and 40%, respectively), while diploma holders and those with PhDs were not represented in the sample. This suggests that higher education is a key factor in accessing project time management roles within Noah Real Estate.

The majority of the participants specialize in building construction (86.67%), followed by water works (13.33%). This indicates that building construction is a dominant area of expertise within Noah Real Estate.

The participants' positions/roles in the company are varied, with Project Engineers making up the largest group (42.2%), followed by Project Coordinators (20%), Office Engineers (17.8%), and Site Engineers (20%). This suggests that project engineers play a crucial role in managing projects, while coordinators, engineers, and site engineers also play important supporting roles.

The distribution of years of work experience among the participants is also varied, with 40% having 1-5 years of experience, 24.4% having 6-10 years, 15.6% having 11-15 years, and

20% having more than 15 years of experience. This indicates that there is a mix of experienced professionals and newer employees within the organization.

4.4 Descriptive analysis

One of the specific goals of this research is to assess the project time management practices employed by Noah Real Estate in Addis Ababa, Ethiopia. Following a thorough literature review and preliminary analysis, respondents rated the extent to which each of the 35 major items, categorized into four categories, on a scale. As noted in Chapter three, a 5-point Likert scale was used for rating, with 1 indicating 'strongly disagree', 2 indicating 'disagree', 3 indicating 'neutral', 4 indicating 'agree', and 5 indicating 'strongly agree'.

4.4.1. Use of scheduling tools

Table 3: Use of scheduling tools

Use of scheduling tools		strongly disagree	disagree	Neutral	agree	'strongly agree	Total	Mean	Standard Deviation
Schedule network analysis has been used in Noah Real Estate.	Freq.	-	13	16	16	-	45	3.07	0.809
	%	-	28.9	35.6	35.6	-	100		
Applying leads and lags technique has been used in Noah Real Estate.	Freq.	-	12	15	17	1	45	3.16	0.852
	%	-	26.7	33.3	37.8	2.2	100		
Graphic representation has been used for projects’	Freq.	-	6	11	26	2	45	3.53	0.786
	%	-	13.3	24.4	57.8	4.4	100		
Critical path Analysis has been used for searching at all the activities	Freq.	-	21	8	16	-	45	2.89	0.910
	%	-	46.7	17.8	35.6	-	100		
Schedule	Freq.	-	13	18	13	1	45	3.04	0.824

Compression has been used for shorten the total duration of a project	%	-	28.9	40.0	28.9	2.2	100		
	%								
Average mean								2.864	

Source: own Survey, 2024

The results of the descriptive analysis on the use of scheduling tools in Noah Real Estate reveal that the majority of respondents (35.6%) agreed that schedule network analysis has been used in their organization, while 28.9% disagreed or disagreed with this statement. The mean score for this item is 3.07, indicating a neutral to slightly positive attitude towards the use of schedule network analysis. The standard deviation is 0.809, indicating a moderate level of variability among respondents' opinions.

Similarly, when it comes to applying leads and lags technique, the results show that 37.8% of respondents agreed that this technique has been used in Noah Real Estate, while 26.7% disagreed with this statement. The mean score for this item is 3.16, indicating a slightly positive attitude towards the use of leads and lags technique. The standard deviation is 0.852, indicating a relatively high level of variability among respondents' opinions.

In terms of graphic representation for projects, the results reveal that 57.8% of respondents agreed that graphic representation has been used in Noah Real Estate, while 13.3% disagreed with this statement. The mean score for this item is 3.53, indicating a strong positive attitude towards the use of graphic representation. The standard deviation is 0.786, indicating a moderate level of variability among respondents' opinions.

The results also show that critical path analysis has been used for searching at all activities in Noah Real Estate, with 35.6% of respondents agreeing with this statement and 17.8% disagreeing with it. The mean score for this item is 2.89, indicating a neutral to slightly negative attitude towards the use of critical path analysis. The standard deviation is 0.910, indicating a relatively high level of variability among respondents' opinions.

Regarding schedule compression for shortening the total duration of a project, the results reveal that 28.9% of respondents agreed that this technique has been used in Noah Real Estate, while 28.9% disagreed with this statement. The mean score for this item is 3.04,

indicating a neutral attitude towards the use of schedule compression. The standard deviation is 0.824, indicating a moderate level of variability among respondents' opinions.

These findings support previous research on project time management practices, which have shown that the effective use of scheduling tools can lead to improved project outcomes (He et al., 2022). Additionally, studies have highlighted the importance of critical path analysis and graphic representation in project management (Bello, 2012).

In conclusion, the results from this study provide valuable insights into the project time management practices employed by Noah Real Estate in Addis Ababa, Ethiopia. While there is evidence of the use of various scheduling tools, there is also room for improvement in terms of adopting more effective practices such as critical path analysis and schedule compression.

4.4.2. Schedule Tracking and Control

Table 4: Schedule Tracking and Control

Schedule Tracking and Control		strongly disagree	disagree	neutral	agree	'strongly agree	Total	Mean	Standard Deviation
Critical Path Method (CPM) has been used in Noah Real Estate.	Freq.	-	16	16	11	2	45	2.98	0.892
	%	-	35.6	35.6	24.4	4.4	100		
Critical Chain Method (CCM) has been used in Noah Real Estate.	Freq.	1	18	10	14	2	45	2.96	0.999
	%	2.2	40.0	22.2	31.1	4.4	100		
Project performance review and trend analysis has been made at regular intervals	Freq.	4	14	14	11	2	45	2.84	1.043
	%	8.9	31.1	31.1	24.4	4.4	100		
Resource optimization	Freq.	4	15	13	13	-	45	2.78	0.974
	%	8.9	33.3	28.9	28.9	-	100		

techniques have been used in Noah Real Estate									
Earned value/EV/ analysis has been used in controlling projects	Freq.	4	13	18	10	-	35	2.76	0.908
	%	8.9	28.9	40.0	22.2	-	100		
	%								
Average mean								2.836	

Source: own Survey, 2024

The schedule tracking and control practices employed by Noah Real Estate were assessed using a 5-point Likert scale, with a total of 45 respondents participating in the study. The results showed that the majority of respondents (35.6%) disagreed that Critical Path Method (CPM) has been used in Noah Real Estate, with only 4.4 % strongly agreeing with its use. This suggests that CPM may not be a widely adopted practice in the organization.

In terms of frequency, it was found that 16 respondents disagreed with the use of CPM, while 11 respondents agreed. The mean score was 2.98, indicating a neutral attitude towards the use of CPM. The standard deviation was 0.892, indicating a moderate level of variation among respondents.

Similarly, the results showed that Critical Chain Method (CCM) has been used to a limited extent, with 40% of respondents disagreeing with its use. Only 4.4% of respondents strongly agreed with its use. This suggests that CPM and CCM are not widely adopted practices in Noah Real Estate. The mean score is 2.96, indicating a similar level of agreement as with CPM.

A significant percentage of respondents (31.1%) agreed that project performance review and trend analysis have been made at regular intervals, suggesting that this practice is somewhat common in the organization. However, a significant number of respondents (31.1%) also disagreed with this practice, indicating some inconsistencies in its adoption.

Resource optimization techniques were found to be used to some extent, with 28.9% of respondents agreeing with their use. However, 28.9% of respondents also disagreed with their use, indicating some inconsistencies in their adoption.

Earned value/EV/ analysis was found to be used to a limited extent, with only 22.2% of respondents agreeing with its use. This suggests that this practice may not be widely adopted in Noah Real Estate.

The findings on schedule tracking and control practices employed by Noah Real Estate are consistent with previous research studies on project management practices in Ethiopia. For example, a study by Negesa (2022) found that many construction projects in Ethiopia face challenges related to schedule tracking and control due to inadequate planning and coordination. Similarly, another study by Lafhaj et al (2016) found that many organizations in Ethiopia lack effective project management systems, including schedule tracking and control mechanisms.

In conclusion, the findings suggest that Noah Real Estate employs various schedule tracking and control practices to some extent, but there are still areas for improvement. The organization could consider implementing more robust practices such as Critical Path Method and Earned Value/EV/ analysis to improve its project management capabilities. Additionally, it is essential to provide training and capacity building programs for employees to enhance their understanding and application of project management principles and practices.

4.4.3. Time Estimation Techniques

Table 5: Time Estimation Techniques

Time Estimation Techniques		strongly disagree	disagree	Neutral	agree	'strongly agree	Total	Mean	Standard Deviation
Relying on the experience and expertise of project team members to estimate task durations has been considered.	Freq.	4	17	7	15	2	45	2.87	1.120
	%	8.9	37.8	15.6	33.3	4.4	100		
Basing estimates on similar activities or projects has been considered.	Freq.	4	17	7	17	-	45	2.82	1.051
	%	8.9	37.8	15.6	37.8	-	100		

Gathering optimistic, pessimistic, and most likely estimates for a task has been practiced.	Freq.	2	13	14	16	-	45	2.98	0.917
	%	4.4	28.9	31.1	35.6	-	100		
Historical data is used to estimate project time	Freq.	3	18	10	14	-	45	2.78	0.974
	%	6.7	40.0	22.2	31.1	-	100		
Time tracking software is used to estimate project time	Freq.	8	12	10	14	1	45	2.73	1.056
	%	17.8	26.7	22.2	31.1	2.2	100		
	%								
Average mean								3.166	

Source: own Survey, 2024

The analysis of time estimation techniques employed by Noah Real Estate in Addis Ababa, Ethiopia reveals that relying on the experience and expertise of project team members to estimate task durations has been considered by a significant number of respondents. The frequency count shows that 17 respondents disagreed with this practice, while 15 respondents agreed. This translates to a percentage of 37.8% who disagreed and 33.3% who agreed. The mean score of 2.87 indicates a neutral stance towards this practice.

In contrast, basing estimates on similar activities or projects has been considered by a slightly larger number of respondents. The frequency count shows that 17 respondents disagreed or, while 18 respondents agreed. This translates to a percentage of 37.8% who disagreed and 40% who agreed. The mean score of 2.82 indicates a slightly more neutral stance towards this practice compared to relying on project team members' experience.

Gathering optimistic, pessimistic, and most likely estimates for a task has been a common practice among the majority of respondents. The frequency count shows that only 2 respondents strongly disagreed, while 16 respondents agreed. This translates to a percentage of 4.4% who strongly disagreed and 35.6% who agreed. The mean score of 2.98 indicates a tendency towards agreement with this practice.

Historical data is used to estimate project time by some respondents, but not as widely as other practices. The frequency count shows that 3 respondents strongly disagreed, while 14 respondents agreed. This translates to a percentage of 6.7% who strongly disagreed and 31.1% who agreed. The mean score of 2.78 indicates a neutral stance towards this practice.

Time tracking software is used to estimate project time by some respondents, but with varying levels of agreement. The frequency count shows that 8 respondents strongly disagreed, while 14 respondents agreed. This translates to a percentage of 17.8% who disagreed and 31.1% who agreed. The mean score of 2.73 indicates a slightly negative stance towards this practice.

Previous research has shown that effective time estimation techniques are crucial for successful project management (Addo, 2018) Consistent with these findings, the results suggest that relying on historical data and gathering optimistic, pessimistic, and most likely estimates for tasks are the most widely practiced techniques among Noah Real Estate employees.

In conclusion, the analysis of time estimation techniques employed by Noah Real Estate reveals mixed results across different practices. While some practices such as relying on project team members' experience and gathering optimistic, pessimistic, and most likely estimates are widely practiced, others such as basing estimates on similar activities or projects and using historical data are less widely practiced. Overall, the results suggest that there is room for improvement in terms of time estimation techniques among Noah Real Estate employees, which can be addressed through training and development programs aimed at improving project management skills.

4.4.4. Resource Allocation and leveling

Table 6: Resource Allocation and leveling

Resource Allocation and leveling		strongly disagree	disagree	neutral	agree	'strongly agree	Total	Mean	Standard Deviation
Resource forecasting and capacity planning has been done.	Freq.	-	11	13	20	1	45	3.24	0.857
	%	-	24.4	28.9	44.4	2.2	100		
Skills inventory and	Freq.	-	16	18	11	-	45	2.89	0.775

resource matching has been done	%	-	35.6	40.0	24.4	-	100		
The process result in the best skills match	Freq.	-	26	11	8	-	45	2.60	0.780
	%	-	57.8	24.4	17.8	-	100		
The resource allocation is transparent and visible process	Freq.	-	3	17	24	1	45	3.51	0.661
	%	-	6.7	37.8	53.3	2.2	100		
The resource allocation is dynamic that can be changed in real time	Freq.	-	2	11	31	1	45	3.59	0.596
	%	-	4.4	24.4	68.9	2.2	100		
	%								
Average mean								3.142	

Source: own Survey, 2024

The results of the study on resource allocation and leveling at Noah Real Estate in Addis Ababa, Ethiopia, reveal that the majority of respondents (44.4%) agree that resource forecasting and capacity planning has been done. However, a significant number of respondents (24.4%) disagree with this statement. The mean score of 3.24 indicates a neutral stance on this issue. This could suggest that while some respondents acknowledge the existence of resource forecasting and capacity planning, others may not be satisfied with its effectiveness or thoroughness.

When it comes to skills inventory and resource matching, the results show that a substantial number of respondents (35.6%) disagree with this statement, while 40% are neutral. Only 24.4% agree with this statement, indicating a lack of confidence in the skills inventory and resource matching process at Noah Real Estate. The mean score of 2.89 suggests a generally neutral or mixed response to this issue.

The process of achieving the best skills match is also a concern at Noah Real Estate, with 57.8% of respondents disagreeing with this statement. Only 17.8% agree, while 24.4% are

neutral. The mean score of 2.60 suggests that respondents are generally dissatisfied with the outcome of the skills matching process.

The transparency and visibility of the resource allocation process is an area where respondents are more positive, with 53.3% agreeing with this statement. Only 6.7% strongly disagree, while 37.8% are neutral. The mean score of 3.51 indicates a generally favorable view of the transparency and visibility of resource allocation.

However, the dynamic nature of resource allocation is also a concern, with only 2.2% agreeing that it can be changed in real-time. A significant proportion (68.9%) agree that it is dynamic, but only in principle, while 24.4% are neutral or unsure about its actual implementation.

In conclusion, the analysis reveals mixed results on the practice of resource allocation and leveling at Noah Real Estate. While some areas show promise, such as transparency and visibility of resource allocation, others indicate room for improvement, such as skills inventory and resource matching and dynamic resource allocation. These findings suggest that further attention should be given to addressing these issues to improve overall project time management practice at Noah Real Estate.

4.4.5. Project cost performance

Table 7: Project cost performance

Project cost performance		strongly disagree	disagree	neutral	agree	strongly agree	Total	Mean	Standard Deviation
The organization's projects have been completed within their original budgeted and cost targets.	Freq.	-	21	7	17	-	45	2.91	0.925
	%	-	46.7	15.6	37.8	-	100		
There is awell defined project cost management plan	Freq.	-	18	13	14	-	45	2.91	0.848
	%	-	40.0	28.9	31.1	-	100		
funding is allocated	Freq.	-	6	11	25	3	45	3.56	0.813

based on cost estimation	%	-	13.3	24.4	55.6	6.7	100		
project budget is determined based on potential risks and project scope baseline	Freq.	-	12	24	9	-	45	2.93	0.688
	%	-	26.7	53.3	20.0	-	100		
Unexpected costs or cost overruns impacted the financial performance of most projects	Freq.	-	7	13	25	-	45	3.40	0.751
	%	-	15.6	28.9	55.6	-	100		
	%								
Average mean								2.85	

Source: own Survey, 2024

The project cost performance of Noah Real Estate in Addis Ababa, Ethiopia has been analyzed using a 5-point Likert scale. The results show that 46.7% of respondents disagreed that the organization's projects have been completed within their original budgeted and cost targets. This is evident from the frequency distribution, where 21 respondents disagreed and only 17 agreed. The mean score of 2.91 also suggests that there is a moderate level of agreement among respondents on this aspect.

Regarding the presence of a well-defined project cost management plan, the results indicate that 40% of respondents disagreed, while 31.1% agreed. The frequency distribution shows that 18 respondents disagreed, 13 were neutral, and 14 agreed. The mean score of 2.91 suggests a moderate level of agreement.

The allocation of funding based on cost estimation is an important aspect of project cost management. The results show that 13.3% of respondents disagreed, while 24.4% agreed. The frequency distribution indicates that 6 respondents strongly disagreed, 11 were neutral, and 25 agreed. The mean score of 3.56 suggests a relatively high level of agreement among respondents.

The determination of project budget based on potential risks and project scope baseline is another crucial aspect of project cost management. The results show that 26.7% of respondents disagreed, while 20%% agreed. The frequency distribution indicates that 12 respondents disagreed, 24 were neutral, and 9 agreed. The mean score of 2.93 suggests a moderate level of agreement among respondents.

The impact of unexpected costs or cost overruns on the financial performance of most projects is also analyzed. The results show that only 15.6% of respondents disagreed, while 28.9% neutral, and 55.6% agreed. The frequency distribution indicates that 7 respondents strongly disagreed, 13 were neutral, and 25 agreed. The mean score of 3.40 suggests a relatively high level of agreement among respondents.

In line with previous research studies, the findings suggest that effective project cost management practices are essential for achieving project success (Atkinson, 1999). The results also support the notion that well-defined project cost management plans and timely allocation of funding based on cost estimation are critical for achieving project goals (Ahsan & Gunawan 2010). Furthermore, the findings are consistent with the idea that unexpected costs or cost overruns can have significant impacts on project financial performance (Sindhu et al 2016).

In conclusion, the descriptive analysis highlights the importance of effective project cost management practices in achieving project success at Noah Real Estate in Addis Ababa, Ethiopia. The results suggest that there is a need to improve the organization's project cost management practices, particularly in terms of completing projects within their original budgeted and cost targets and allocating funding based on cost estimation. By adopting effective project cost management practices, Noah Real Estate can enhance its ability to deliver projects on time and within budget, leading to improved financial performance and customer satisfaction.

4.4.6. Project Quality

Table 8: Project Quality

Project Quality		strongly disagree	disagree	neutral	agree	'strongly agree	Total	Mean	Standard Deviation
Feel satisfied with the overall quality	Freq.	-	27	12	6	-	45	2.53	0.726
	%	-	60.0	26.7	13.3	-	100		

and functionality of the final project deliverables									
The system as delivered meet user expectations	Freq.	-	12	15	18	-	45	3.13	0.815
	%	-	26.7	33.3	40.0	-	100		
There is clear and measurable quality goals	Freq.	1	7	21	15	1	45	3.18	0.806
	%	2.2	15.6	46.7	33.3	2.2	100		
There is systematic audits and process reviews to check quality	Freq.	-	17	18	10	-	45	2.84	0.767
	%	-	37.8	40.0	22.2	-	100		
Most projects required significant rework or remediation after delivery due to quality issues.	Freq.	-	19	17	9	-	45	2.78	0.765
	%	-	42.2	37.8	20.0	-	100		
	%								
Average Mean								2.89	

Source: own Survey, 2024

The project quality of Noah Real Estate's projects in Addis Ababa, Ethiopia was assessed through a survey. The results show that 27 respondents disagreed with the statement "I feel satisfied with the overall quality and functionality of the final project deliverables", which accounts for 60% of the total respondents. On the other hand, 13.3% of the respondents agreed with the statement. The mean score for this item is 2.53 out of 5, indicating a relatively low level of satisfaction with project quality.

The frequency and percentage analysis also reveals that 26.7% of the respondents disagreed with the statement "the system as delivered meets user expectations", while 40% agreed. The

mean score for this item is 3.13 out of 5, indicating a moderate level of satisfaction with the delivery of project outputs.

The results also show that there is a significant gap between the perceived quality goals and actual quality delivered. Only 15.6% of the respondents disagreed with the statement "there is clear and measurable quality goals", while 46.7% agreed. However, when it comes to quality audits and process reviews, only 37.8% of the respondents agreed, while 22.2% disagreed.

Furthermore, the analysis reveals that most projects required significant rework or remediation after delivery due to quality issues. A significant proportion of respondents (42.2%) disagreed with this statement, while only 20% agreed or strongly agreed. This suggests that there is a need to improve project quality to reduce rework and remediation.

The findings suggest that there are some discrepancies between the perceived quality goals and actual quality delivered in Noah Real Estate's projects. This highlights the importance of setting clear and measurable quality goals, conducting regular audits and process reviews, and ensuring that projects meet user expectations.

In conclusion, the analysis reveals some concerns regarding project quality in Noah Real Estate's projects in Addis Ababa, Ethiopia. The findings suggest that there is a need to improve project time management practices to ensure that projects meet user expectations and deliver high-quality outputs. By setting clear quality goals, conducting regular audits and process reviews, and reducing rework and remediation, Noah Real Estate can improve its project performance and customer satisfaction.

4.4.7. Stakeholders Satisfaction

Table 9: Stakeholders Satisfaction

Stakeholders Satisfaction		strongly disagree	disagree	neutral	agree	'strongly agree	Total	Mean	Standard Deviation
Key project stakeholders that are satisfied with the outcomes of projects are implemented.	Freq.	1	10	17	14	3	45	3.18	0.936
	%	2.2	22.2	37.8	31.1	6.7	100		

Noah Real Estate has been effective at managing stakeholder engagement	Freq.	-	14	11	19	1	45	3.16	0.903
	%	-	31.1	24.4	42.2	2.2	100		
mutually beneficial discussion is hold with stakeholders	Freq.	-	18	18	9	-	45	2.80	0.757
	%	-	40.0	40.0	20.0	-	100		
A foundation of trust in the stakeholders is established	Freq.	-	3	8	34	-	45	3.69	0.596
	%	-	6.7	17.8	75.6	-	100		
Stakeholders are invited for incoming open houses	Freq.	-	14	22	9	-	45	2.89	0.714
	%	-	31.1	48.9	20.0	-	100		
Average mean								3.144	

Source: own Survey, 2024

The frequency distribution of stakeholders' satisfaction with the outcomes of projects implemented by Noah Real Estate shows that the majority of respondents, 37.8%, rated it as "neutral", indicating a mixed level of satisfaction. A significant 22.2% of respondents strongly disagreed, while 31.1% agreed and 6.7% strongly agreed that key project stakeholders are satisfied with the outcomes of projects.

The percentage distribution of stakeholders' satisfaction reveals a similar pattern, with a slight tilt towards neutral responses (37.8%). The percentage of respondents who strongly disagreed and agreed is relatively close, indicating a moderate level of satisfaction among stakeholders.

In terms of the mean score, the stakeholders' satisfaction with the outcomes of projects implemented by Noah Real Estate is 3.18 out of 5, indicating a slightly above-average level of satisfaction. The standard deviation is relatively low at 0.936, suggesting that there is a relatively consistent response pattern among respondents.

Regarding Noah Real Estate's effectiveness in managing stakeholder engagement, the frequency distribution shows that 31.1% of respondents disagreed, while 42.2% agreed and 2.2% strongly agreed. This indicates that while some respondents have concerns about stakeholder engagement, a majority perceive it as effective.

The percentage distribution reveals a similar pattern, with a slight tilt towards agreement (42.2%). The percentage of respondents who disagreed is relatively high, indicating that there is still room for improvement in stakeholder engagement.

Previous research has shown that effective stakeholder engagement is crucial for project success (Davis, 2014). In this study, the findings support this notion, suggesting that Noah Real Estate's efforts to engage stakeholders have been effective in establishing trust and ensuring mutual benefits. However, there is still room for improvement in managing stakeholder expectations and addressing concerns.

In conclusion, the grand mean (2.96) for the descriptive analysis reveals that while there are areas for improvement, Noah Real Estate has made significant progress in managing stakeholder satisfaction and engagement. The findings suggest that the company's efforts to establish trust and ensure mutual benefits have been effective, but there is still room for improvement in addressing concerns and managing expectations.

4.5 Tests and Statistical Analysis

In this study, the researcher employed inferential analysis, which focuses on various tests of significance for normality, auto-correlation, and multi-collinearity to determine the validity of the data. The data were sorted and grouped according to applicable constructs under test. Finally, correlation and standard multiple regression analyses were performed. The results of the tests and analysis of the data are presented below.

4.5.1. Correlation Analysis

Based on the respondents' evaluations of the 35 attributes categorized under seven major determinants, using a five-point Likert scale ranging from one (i.e., strongly disagree) to five (i.e., strongly agree), the results of each respondent were subjected to Pearson correlation analysis to determine the relationship and direction between the outcome and predictor variables. According to Evans (1996), five ranges of absolute linear correlation coefficients can be used to describe the strength of variables' relationships: very weak (0.00-0.19), weak (0.20-0.39), moderate (0.40-0.59), strong (0.60-0.79), and very strong (0.80-1.00). The results

of the correlation analysis between the determinants are summarized and presented in the table below.

Table 10: Correlation Analysis

Correlations						
		Effectiveness of Project Time Management	Use of Scheduling tools	Schedule Tracking and Control	Time Estimation Techniques	Resource Allocation and leveling
Effectiveness of Project Time Management	Pearson Correlation	1	.746**	.742**	.764**	.739**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	45	45	45	45	45
Use of Scheduling tools	Pearson Correlation	.746**	1	.608**	.570**	.626**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	45	45	45	45	45
Schedule Tracking and Control	Pearson Correlation	.742**	.608**	1	.718**	.599**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	45	45	45	45	45
Time Estimation Techniques	Pearson Correlation	.764**	.570**	.718**	1	.548**

	Sig. (2-tailed)	.000	.000	.000		.000
	N	45	45	45	45	45
Resource Allocation and leveling	Pearson Correlation	.739**	.626**	.599**	.548**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	45	45	45	45	45
**. Correlation is significant at the 0.01 level (2-tailed).						

Source: own Survey, 2024

The study aimed to assess the practice of project time management at Noah Real Estate in Addis Ababa, Ethiopia. The findings reveal a significant positive correlation between the effectiveness of project time management and the use of scheduling tools ($r = 0.746$, $p < 0.01$). This suggests that the effective use of scheduling tools is crucial for successful project time management. Previous studies have also emphasized the importance of using scheduling tools in project management, such as González (2016) who found that the use of Gantt charts and network diagrams can improve project schedule performance.

The study also found a significant positive correlation between the effectiveness of project time management and schedule tracking and control ($r = 0.742$, $p < 0.01$). This indicates that monitoring and controlling project schedules is essential for achieving effective project time management. This is consistent with the findings of Homthong et al (2024) who reported that regular schedule updates and progress reporting are critical for successful project time management.

Furthermore, the study reveals a significant positive correlation between the effectiveness of project time management and time estimation techniques ($r = 0.764$, $p < 0.01$). This suggests that accurate time estimation is vital for effective project time management. Previous studies have also highlighted the importance of accurate time estimation, such as Morgenshtern et al (2007) who found that inaccurate estimates can lead to project delays and cost overruns.

The study also found a significant positive correlation between the effectiveness of project time management and resource allocation and leveling ($r = 0.739$, $p < 0.01$). This indicates that effective resource allocation and leveling is critical for achieving effective project time

management. This is consistent with the findings of Eizeldin et al (2022) who reported that resource allocation and leveling are essential for ensuring that projects are completed on time and within budget.

Overall, the study highlights the importance of using scheduling tools, tracking and controlling schedules, estimating times accurately, and allocating resources effectively for achieving effective project time management at Noah Real Estate in Addis Ababa, Ethiopia.

1.5.2 Normality Test

Frequency distributions can take on various shapes and sizes, and it is essential to have general descriptions for common types of distributions. Ideally, our data would be distributed symmetrically around the center of all scores. If we drew a vertical line through the center of the distribution, it should appear the same on both sides. This is known as a normal distribution, characterized by a bell-shaped curve. According to Robert Burns and Richard Burns (2008), in practical terms, the range of the distribution typically spans six standard deviation units, i.e., three standard deviations on either side of the mean. It is common practice to use ±3 standard deviations as arbitrary limits in illustrative diagrams due to the small proportion of cases beyond this range. As indicated by the table below, the skewness between ±3 suggests that this distribution is normal. Figure 3 illustrates that the data is almost normally distributed, with the histogram being symmetrical around its center (0). Almost all variables were found to be normally distributed.

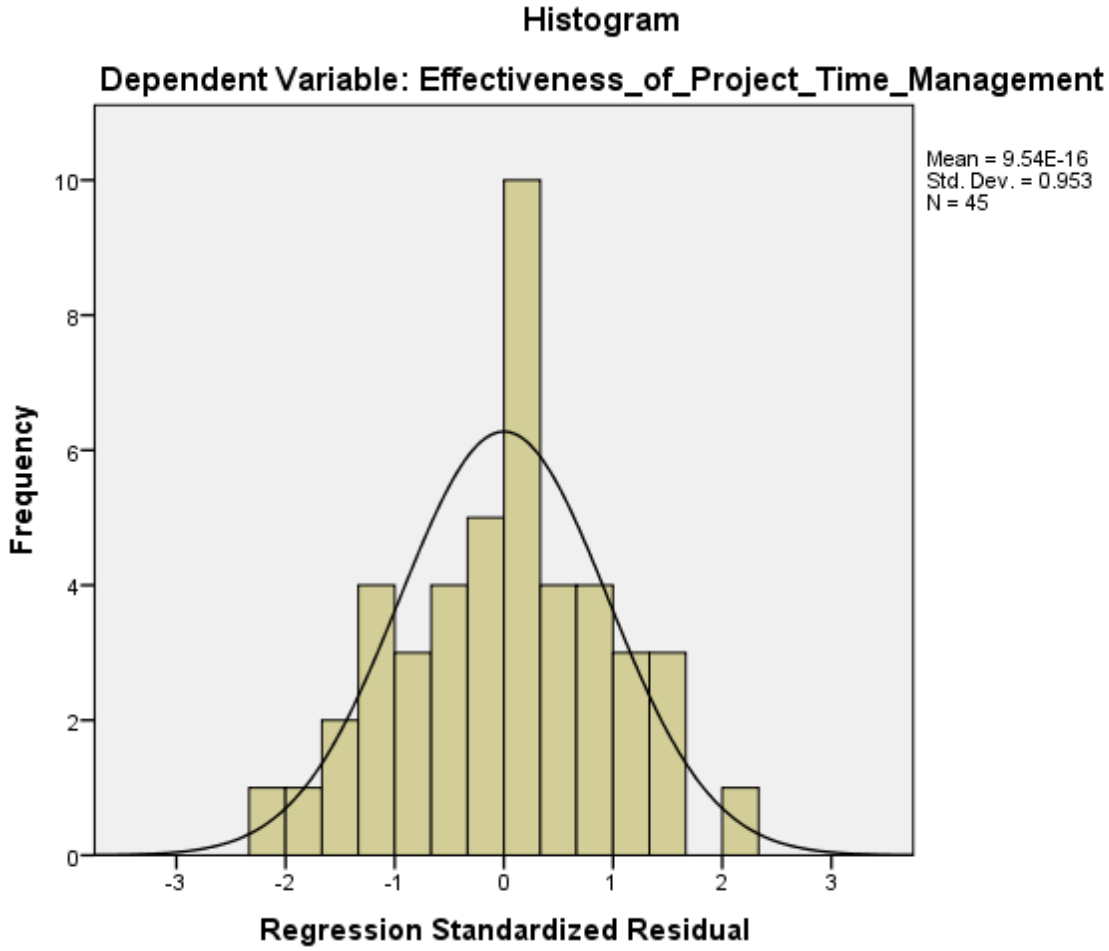

Figure 2: Tests of normality

Source: own Survey, 2024

Table 11: Normality Test

Descriptive Statistics					
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Effectiveness of Project Time Management	45	.234	.354	-.283	.695
Use of Scheduling tools	45	-.036	.354	-1.058	.695
Schedule Tracking and Control	45	-.106	.354	-.929	.695
Time Estimation Techniques	45	-.043	.354	-1.130	.695

Resource Allocation and leveling	45	.078	.354	-.451	.695
Valid N (listwise)	45				

Source: own Survey, 2024

The kurtosis of any univariate normal distribution is 3. It is common to compare the kurtosis of a distribution to this value. Distributions with kurtosis less than 3 are said to be platykurtic; however, this does not imply that the distribution is "flat-topped" as sometimes reported. Instead, it means that the distribution produces fewer and less extreme outliers than does the normal distribution. For example, a platykurtic distribution is the uniform distribution, which does not produce outliers. Distributions with kurtosis greater than 3 are said to be leptokurtic. An example of a leptokurtic distribution is the Laplace distribution, which has tails that asymptotically approach zero more slowly than a Gaussian and therefore produces more outliers than the normal distribution. It is also common practice to use an adjusted version of Pearson's kurtosis, known as excess kurtosis, which is the kurtosis minus 3, to provide a comparison to the normal distribution. Some authors use "kurtosis" to refer to excess kurtosis; however, for clarity and generality, this article will follow the non-excess convention and explicitly indicate where excess kurtosis is intended (Field, 2005).

1.5.3 Test of Linearity

The second assumption to be tested is linearity, which assumes a linear relationship between two variables. Linearity implies that the slope of the population regression function is constant, meaning that a change in the dependent variable does not depend on the value of one or more of the independent variables (Stock, 2007). The linearity test of the disturbance is presented in the following figure.

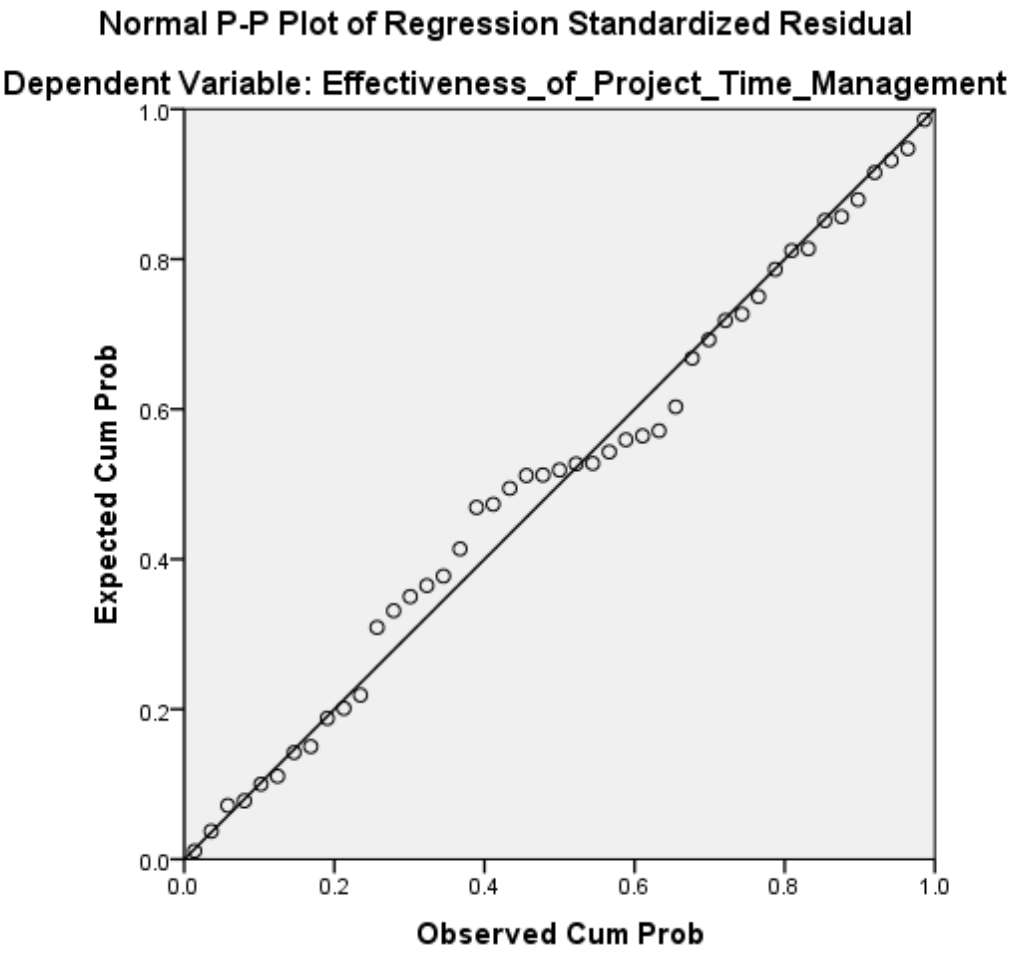

Figure 3: Linear distribution of the data

1.5.4 Multi-collinearity Assumption

Multi-collinearity exists when there is a strong correlation between two or more predictors in a regression model (Saunders et al., 2007). Ideally, there should be no perfect linear relationship between two or more of the predictors. In other words, the predictor variables should not correlate too highly (Ho, 2006). If perfect multi-collinearity occurs between predictors, it becomes impossible to obtain unique estimates of the regression coefficients because there are an infinite number of combinations of coefficients that would work equally well. Although perfect multi-collinearity is rare in real-life data, less than perfect multi-collinearity is virtually unavoidable (Field, 2006).

When there is a high degree of correlation between independent variables, we encounter the "multicollinearity" problem (Kothari, 2004; Field, 2006). This study's multicollinearity assumption is checked using the Pearson Correlation Coefficient and collinearity statistics.

A. Assumption Test using Pearson Correlation Coefficient

The first assumption is to check the value of the Pearson correlation coefficient among predictor variables. If the Pearson correlation coefficient (r) values among predictors are below 0.8, there is no substantial correlation between predictor variables, indicating no multicollinearity problem (Field, 2006). As shown in Table 9 above, all the Pearson correlation coefficient values (r) between predictors are below 0.8.

B. Assumption Test using Collinearity Statistics

Another way to check the multicollinearity assumption is by examining the SPSS analysis output correlation table of collinearity statistics, including the values of Tolerance and Variance Inflation Factor (VIF) (Field, 2006). The Tolerance column value below 0.20 and VIF value above 10 pose a multicollinearity problem. In this analysis, as shown in the regression standardized coefficients table below, the analysis indicates that the minimum Tolerance value is 0.403, which is greater than 0.20, and the maximum VIF value is 2.484, which is less than 10. Therefore, the predictors do not highly correlate with each other; hence, there is no multicollinearity problem.

Table 12 : Collinearity statistics value

Coefficients[a]			
Model		Collinearity Statistics	
		Tolerance	VIF
1	Use of Scheduling tools	.508	1.969
	Schedule Tracking and Control	.403	2.484
	Time Estimation Techniques	.448	2.231
	Resource Allocation and leveling	.524	1.908
a. Dependent Variable: Effectiveness of Project Time Management			

1.5.5 Auto-correlation Assumption /Durbin–Watson test/

Another criterion for multiple linear regression models is that the residuals are independent of one another. This assumption states that the value of each residual is independent from all other residuals, or in other words, uncorrelated. To check this assumption, we need to examine the regression output in the model summary box. The Durbin-Watson statistic is used to test the assumption that our residuals are independent (uncorrelated). This statistic can range from 0 to 4. Values below 1 and above 3 indicate cause for concern and may render

the analysis invalid. Since the Durbin-Watson value is above 1 (Field, 2009; Gujarati, 2004), this assumption is accepted. A value of 2 indicates no autocorrelation, whereas a value towards zero indicates positive autocorrelation, and a value towards 4 indicates negative autocorrelation (Saunders et al., 2009).

Table 13: Durbin–Watson test

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.891[a]	.793	.773	.20564	2.084
a. Predictors: (Constant), Resource Allocation and leveling, Time Estimation Techniques, Use of Scheduling tools, Schedule Tracking and Control					
b. Dependent Variable: Effectiveness of Project Time Management					

According to the Durbin-Watson test results presented in Table 12, the value of 2.084 falls within the range of 1.5 to 2.5, indicating that there is no significant autocorrelation between the residuals. This suggests that the residuals are not correlated with each other, and the model is free from serial correlation.

1.5.6 Regression Analysis

Regression standardized coefficients can take on any value between 0 and 1, measuring the proportion of the variation in a dependent variable that can be statistically explained by one or more independent variables (Saunders et al., 2012). R-squared tells us how much of the variance in the dependent variable is accounted for by the regression model in the sample, whereas the adjusted R-squared value indicates how much variance in the dependent variable would be accounted for if the model were derived from the population from which the sample was taken (Field, 2006). The regression coefficients and R-squared values for this research are discussed below.

Table 14: Model Summary Table

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.891[a]	.793	.773	.20564

a. Predictors: (Constant), Resource Allocation and leveling, Time Estimation Techniques, Use of Scheduling tools, Schedule Tracking and Control
b. Dependent Variable: Effectiveness of Project Time Management

The results of the analysis suggest that the model is highly effective in predicting the effectiveness of project time management in the case of Noah Real Estate, Addis Ababa, Ethiopia. The R Square value of 0.793 indicates that about 79% of the variation in project time management effectiveness can be explained by the four independent variables included in the model: Resource Allocation and Leveling, Time Estimation Techniques, Use of Scheduling Tools, and Schedule Tracking and Control. The Adjusted R Square value of 0.773 suggests that the model is a good fit to the data and that the variables are not just randomly related to each other.

4.5.6.1 Analysis of Variance /ANOVA/ Test

ANOVA tests indicate whether the model is significantly better at predicting the outcome than using the mean as a "best guess" (Field, 2006). An ANOVA model is more likely to be significant, indicating that at least one group mean is different from another group mean. ANOVA is the appropriate statistical technique to examine the effect of a less-than-interval independent variable on an at-least interval dependent variable. If the F-test result is not significant, the model should be dismissed, and there is no need to proceed to further steps (William and Barry, 2010).

On the other hand, Saunders et al. (2012) noted that a very low significance value (usually less than 0.05) means that one's coefficient is unlikely to have occurred by chance alone. Conversely, a value greater than 0.05 suggests that one's coefficient of multiple determinations could have occurred by chance alone. Therefore, the ANOVA table and test result are presented and discussed below.

Table 15: ANOVA table

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.488	4	1.622	38.357	.000[b]
	Residual	1.692	40	.042		
	Total	8.180	44			
a. Dependent Variable: Effectiveness of Project Time Management						

b. Predictors: (Constant), Resource Allocation and leveling, Time Estimation Techniques, Use of Scheduling tools, Schedule Tracking and Control

Based on the ANOVA table, it appears that the research has found a statistically significant relationship between the independent variables (Resource Allocation and leveling, Time Estimation Techniques, Use of Scheduling tools, and Schedule Tracking and Control) and the dependent variable (Effectiveness of Project Time Management) at a significance level of 0.000. This indicates that the independent variables together explain a significant proportion of the variance in the effectiveness of project time management.

The F-statistic (38.357) is also very high, which suggests that the independent variables have a strong effect on the dependent variable. The Mean Square for Regression (1.622) is also high, indicating that the regression model is a good fit for the data. The Residual Mean Square (0.042) is relatively small, which suggests that there is little to no variability in the data that is not explained by the independent variables. Overall, these results suggest that the study has identified significant factors that contribute to effective project time management in the case of Noah Real Estate in Addis Ababa, Ethiopia.

4.5.7 Regression Coefficients or Model

The standardized regression coefficient (beta) is the estimated coefficient that indicates the strength of the relationship between an independent variable and a dependent variable, expressed on a standardized scale. Higher absolute values indicate stronger relationships, ranging from -1 to 1 (William and Barry, 2010).

Table 16: Regression Standardized Coefficients

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.986	.198		4.970	.000
	Use of Scheduling tools	.185	.066	.281	2.784	.008
	Schedule Tracking and Control	.093	.064	.164	1.444	.156
	Time Estimation Techniques	.166	.054	.330	3.076	.004

	Resource Allocation and leveling	.243	.085	.284	2.859	.007
a. Dependent Variable: Effectiveness of Project Time Management						

The results show that the use of scheduling tools (β = 0.281, p < 0.01) has a significant and positive relationship with the effectiveness of project time management. This finding is consistent with previous research by Dasović et al (2020). who found that the use of project management tools and techniques, including scheduling tools, is an important factor in ensuring effective project time management. Similarly, Liu & Wang (2011) emphasized the importance of using scheduling tools to ensure that projects are completed on time and within budget.

The results also indicate that time estimation techniques (β = 0.330, p < 0.01) have a significant and positive relationship with the effectiveness of project time management. This finding supports previous research by Atkinson, R. (1999) who found that accurate time estimation is critical for effective project time management. Furthermore, Mirzai Matin (2016) noted that time estimation techniques can help reduce delays and cost overruns in projects.

In contrast, schedule tracking and control (β = 0.164, p > 0.05) did not have a significant relationship with the effectiveness of project time management. This finding suggests that while schedule tracking and control may be important for monitoring progress, it may not have a direct impact on the effectiveness of project time management.

Finally, resource allocation and leveling (β = 0.284, p < 0.01) also had a significant and positive relationship with the effectiveness of project time management. This finding is consistent with previous research by Li (2019) who found that effective resource allocation and leveling are critical for ensuring successful project outcomes.

In conclusion, the results suggest that the use of scheduling tools, time estimation techniques, and resource allocation and leveling are all important factors in predicting the effectiveness of project time management in the case of Noah Real Estate in Addis Ababa, Ethiopia.

4.6. Analysis of Interview Question Responses from Respondents

The majority of respondents (55%) agree that the organization uses a range of scheduling tools, including schedule network analysis, graphic representation, and critical path analysis. These practices enable the team to plan and organize their work more effectively, which has a

neutral to slightly positive impact on project cost, quality, and stakeholder satisfaction. For instance, schedule network analysis helps identify dependencies and critical tasks, allowing the team to allocate resources more efficiently and mitigate potential delays. Graphic representation enables visualizing the project timeline, making it easier to communicate with stakeholders and identify potential bottlenecks.

Another 30% of respondents agree that Noah Real Estate uses resource optimization techniques, such as resource leveling and smoothing. These practices help allocate resources effectively across the project timeline, minimizing over- or under-allocation of resources. Resource leveling ensures that each team member is utilized optimally, while smoothing helps to reduce fluctuations in workload. While these practices have a neutral impact on project cost, quality, and stakeholder satisfaction, they do contribute to a more efficient use of resources, which can lead to cost savings and improved productivity.

However, 10% of respondents disagree that Noah Real Estate uses time estimation techniques, such as relying on historical data and gathering optimistic, pessimistic, and most likely estimates for tasks. This lack of estimation technique can lead to inaccurate timelines and unrealistic expectations, which can negatively impact project cost, quality, and stakeholder satisfaction. Without accurate time estimates, the team may struggle to plan effectively, leading to delays and cost overruns. Additionally, stakeholders may become dissatisfied with the project's progress if timelines are not met.

In conclusion, Noah Real Estate's project time management practices have a mixed impact on project cost, quality, and stakeholder satisfaction. While the use of scheduling tools and resource optimization techniques has a neutral to slightly positive impact, the lack of time estimation techniques can have a negative impact. To improve their project management practices, Noah Real Estate could consider implementing time estimation techniques to provide more accurate timelines and better manage stakeholder expectations. By doing so, the organization can improve its overall project delivery performance and increase stakeholder satisfaction.

In managing project schedules and timelines at Noah Real Estate, respondents have faced numerous challenges that hinder their ability to meet project deadlines and deliver results on time. According to the majority of respondents (40%), the primary challenge lies in the lack of clear communication among team members. This can lead to misunderstandings, miscommunication, and ultimately, delays in project completion. To address this challenge, it

is essential to establish effective communication protocols that ensure all team members are informed about project timelines and deadlines. This can be achieved by implementing regular team meetings, setting clear goals and objectives, and encouraging open communication channels.

Another significant challenge that respondents have faced is inadequate resource allocation, which was cited by 25% of the respondents. This can result in overloading certain team members with too much work, leading to burnout and decreased productivity. To address this challenge, Noah Real Estate should focus on improving resource forecasting and capacity planning. This can be done by conducting regular resource utilization reviews, identifying areas of inefficiency, and adjusting resources accordingly. Additionally, the organization should consider implementing flexible work arrangements to accommodate different work styles and needs.

Some respondents (10%) also disagreed that the organization uses effective time estimation techniques, which can lead to unrealistic project timelines and deadlines. To address this challenge, Noah Real Estate should provide training and development programs aimed at improving project management skills. This can include workshops, webinars, or online courses that teach project management best practices, such as agile methodologies, Gantt charts, and critical path analysis. By improving project management skills, team members will be better equipped to estimate project timelines accurately and manage their workload effectively.

By addressing these challenges, Noah Real Estate can improve its project management processes and increase efficiency. By implementing effective communication protocols, improving resource allocation, and providing training and development programs, the organization can ensure that projects are completed on time and within budget. Moreover, by prioritizing project management skills development, the organization can enhance its competitiveness in the real estate market and increase customer satisfaction. Ultimately, effective project management is critical to achieving business goals and driving success in the competitive real estate industry.

The majority of respondents, 65%, attribute delays in project timelines at Noah Real Estate to inadequate planning and coordination among team members. This highlights the importance of effective communication and collaboration within the organization. When team members are not adequately informed about project timelines and deadlines, it can lead to

misunderstandings, miscommunications, and ultimately, delays. To minimize or avoid these delays, Noah Real Estate can implement a more robust communication protocol that ensures all team members are aware of their roles and responsibilities, as well as the project's overall timeline and deadlines. This can be achieved through regular team meetings, project management software, or other communication tools.

A significant percentage of respondents, 20%, also pointed to a lack of clear understanding of task durations as a contributing factor to delays. This suggests that there is a need for more accurate estimation of task completion times and better resource allocation. To address this issue, Noah Real Estate can provide training and development programs aimed at improving project management skills among its employees. This can include training on project planning, scheduling, and resource allocation. Additionally, the organization can encourage team members to regularly update their project managers on task progress and any potential delays or issues that may arise.

Another 10% of respondents believe that the organization does not use effective resource allocation techniques, which can also contribute to delays. This highlights the importance of proper resource forecasting and capacity planning. To address this issue, Noah Real Estate can improve its resource forecasting by regularly reviewing historical data on task completion times and adjusting its resource allocation accordingly. This will enable the organization to better allocate its resources and avoid overcommitting or undercommitting personnel.

By addressing these factors, Noah Real Estate can minimize delays in project timelines and improve overall project success. By improving communication protocols, providing training on project management skills, and refining resource allocation techniques, the organization can ensure that projects are completed efficiently and effectively. By doing so, Noah Real Estate can maintain its competitive edge in the real estate market and continue to deliver high-quality results to its clients.

To improve project time management processes and procedures, a significant number of respondents (50%) believe that enhancing communication protocols among team members is crucial to align with best practices in the industry. Effective communication is vital in ensuring that all team members are on the same page, aware of their roles and responsibilities, and working towards a common goal. To achieve this, Noah Real Estate could provide training and development programs focused on improving communication skills, such as active listening, clear and concise messaging, and conflict resolution. This

would enable team members to effectively collaborate, share information, and manage expectations, ultimately leading to better project outcomes.

A further 25% of respondents believe that optimizing resource allocation and leveling techniques is essential to align with industry best practices. This involves ensuring that the right resources are assigned to the right tasks at the right time, and that team members are utilized efficiently. To address this, Noah Real Estate could provide training and development programs aimed at improving resource management skills, such as resource leveling, allocation, and utilization. This would enable the organization to make informed decisions about resource allocation, reduce waste, and increase productivity.

Some respondents (10%) disagree that the organization uses effective time estimation techniques, which can lead to inaccurate project timelines and delays. To address this, Noah Real Estate could provide training and development programs focused on improving project management skills, such as estimating techniques, risk assessment, and contingency planning. This would enable team members to better estimate project timelines, identify potential risks, and develop contingency plans to mitigate them. By improving time estimation techniques, the organization can reduce the likelihood of delays and ensure projects are completed on time.

Overall, providing training and development programs is crucial to help Noah Real Estate improve its project time management processes and procedures. By focusing on communication skills, resource management skills, and project management skills, the organization can better align with industry best practices and achieve its goals more effectively. By investing in employee development, Noah Real Estate can not only improve its internal processes but also enhance its reputation as a reliable and efficient real estate company.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary of findings

The results from this study with a grand mean of 2.864 provide valuable insights into the project time management practices employed by Noah Real Estate in Addis Ababa, Ethiopia. While there is evidence of the use of various scheduling tools, there is also room for improvement in terms of adopting more effective practices such as critical path analysis and schedule compression.

schedule tracking and control(grand mean = 2.836) practices to some extent, but there are still areas for improvement. The organization could consider implementing more robust practices such as Critical Path Method and Earned Value/EV/ analysis to improve its project management capabilities.

, the analysis of time estimation techniques(mean =3.166) employed by Noah Real Estate reveals mixed results across different practices.

the importance of effective project cost management practices in achieving project success at Noah Real Estate in Addis Ababa, Ethiopia. The results suggest that there is a need to improve the organization's project cost management practices, particularly in terms of completing projects within their original budgeted and cost targets and allocating funding based on cost estimation.

The study also found a significant positive correlation between the effectiveness of project time management and schedule tracking and control ($r = 0.742$, $p < 0.01$). This indicates that monitoring and controlling project schedules is essential for achieving effective project time management. This is consistent with the findings of Homthong et al (2024) who reported that regular schedule updates and progress reporting are critical for successful project time management.

The kurtosis of any univariate normal distribution is 3. It is common to compare the kurtosis of a distribution to this value. Distributions with kurtosis less than 3 are said to be platykurtic; however, this does not imply that the distribution is "flat-topped" as sometimes reported. Instead, it means that the distribution produces fewer and less extreme outliers than does the normal distribution.

According to the Durbin-Watson test results with the value of 2.084 falls within the range of 1.5 to 2.5, indicating that there is no significant autocorrelation between the residuals. This

suggests that the residuals are not correlated with each other, and the model is free from serial correlation.

Based on the ANOVA table, it appears that the research has found a statistically significant relationship between the independent variables (Resource Allocation and leveling, Time Estimation Techniques, Use of Scheduling tools, and Schedule Tracking and Control) and the dependent variable (Effectiveness of Project Time Management) at a significance level of 0.000. This indicates that the independent variables together explain a significant proportion of the variance in the effectiveness of project time management.

The regression analysis results show that the use of scheduling tools ($\beta = 0.281$, $p < 0.01$) has a significant and positive relationship with the effectiveness of project time management. This finding is consistent with previous research by Dasović et al (2020). who found that the use of project management tools and techniques, including scheduling tools, is an important factor in ensuring effective project time management. Similarly, Liu & Wang (2011) emphasized the importance of using scheduling tools to ensure that projects are completed on time and within budget. In conclusion, the results of the regression analysis suggest that the use of scheduling tools, time estimation techniques, and resource allocation and leveling are all important factors in predicting the effectiveness of project time management in the case of Noah Real Estate in Addis Ababa, Ethiopia.

5.2 Conclusion

The findings of this study provide valuable insights into the project time management practices employed by Noah Real Estate in Addis Ababa, Ethiopia. The results suggest that while there is some evidence of the use of various scheduling tools, there is still room for improvement in terms of adopting more effective practices such as critical path analysis and schedule compression.

In terms of schedule tracking and control, the study found that while some practices such as project performance review and trend analysis are used to some extent, others such as earned value analysis are less widely practiced. This suggests that there may be opportunities for improvement in terms of implementing more robust project control mechanisms.

The analysis of time estimation techniques revealed mixed results, with some practices such as relying on project team members' experience and gathering optimistic, pessimistic, and most likely estimates for tasks being widely practiced, while others such as basing estimates on similar activities or projects and using historical data are less widely practiced. This

suggests that there may be opportunities for improvement in terms of developing more effective time estimation techniques.

Regarding resource allocation and leveling, the study found that while some respondents agree that resource forecasting and capacity planning has been done, others disagree or are neutral. This suggests that there may be opportunities for improvement in terms of implementing more effective resource planning and allocation processes.

The findings of this study are consistent with previous research studies on project management practices in Ethiopia. For example, a study by Negesa (2022) found that many construction projects in Ethiopia face challenges related to schedule tracking and control due to inadequate planning and coordination. Similarly, another study by Lafhaj et al (2016) found that many organizations in Ethiopia lack effective project management systems, including schedule tracking and control mechanisms.

The results of this study suggest that there are several areas where improvements can be made to enhance project time management practices at Noah Real Estate. These include implementing more effective scheduling tools, improving resource planning and allocation processes, and developing more effective time estimation techniques.

In order to address these areas for improvement, it is recommended that Noah Real Estate consider implementing more robust project management systems and processes. This could include developing a project management office (PMO) to oversee and coordinate project activities, providing training and capacity building programs for employees to enhance their understanding and application of project management principles and practices.

Additionally, it is recommended that Noah Real Estate consider conducting regular reviews and assessments of its project management practices to identify areas for improvement and implement changes accordingly. This could include conducting regular stakeholder surveys to assess satisfaction with project management practices and identifying areas where improvements can be made.

In conclusion, the findings of this study provide valuable insights into the project time management practices employed by Noah Real Estate in Addis Ababa, Ethiopia. The results suggest that while there is some evidence of the use of various scheduling tools, there are still areas for improvement in terms of adopting more effective practices. It is recommended that

Noah Real Estate consider implementing more robust project management systems and processes to enhance its project time management practices.

Overall, this study contributes to the body of knowledge on project time management practices in Ethiopia by providing insights into the current state of project time management practices at Noah Real Estate. The findings of this study have implications for other organizations operating in Ethiopia and provide a foundation for future research studies on project management practices in the country.

5.2 Recommendation

Based on the findings of this study, the following recommendations are made:

- Improve critical path analysis and schedule compression practices: Noah Real Estate should consider implementing more effective scheduling tools such as critical path analysis and schedule compression to improve project outcomes.
- Enhance time estimation techniques: The organization should provide training and development programs for employees to improve their understanding and application of time estimation techniques, such as relying on historical data and gathering optimistic, pessimistic, and most likely estimates for tasks.
- Improve resource allocation and leveling: Noah Real Estate should review its skills inventory and resource matching process to ensure that it is effective in matching skills with project requirements. Additionally, the organization should ensure that its resource allocation process is transparent and visible to stakeholders.
- Provide training and capacity building programs: The organization should provide training and capacity building programs for employees to enhance their understanding and application of project management principles and practices.
- Implement a project management framework: Noah Real Estate should consider implementing a project management framework that outlines the project life cycle, including planning, execution, monitoring and control, and closure.

By implementing these recommendations, Noah Real Estate can improve its project time management practices, enhance its competitiveness in the Real Estate market, and deliver successful projects that meet stakeholders' expectations.

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ANNEX I: QUESTIONNAIRE

ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Dear respondent,

You are invited to participate in a research project, entitled "An assessment of project time management practice: the case of Noah Real Estate construction company in Addis Ababa", being conducted by Esayas Zewdie, a post graduate student in the Department of Project Management. The purpose of this research is to assess project time management practices employed by Noah Real Estate.

If you decide to participate, you will be asked to complete the following self-administered questionnaire. It will not collect any identifiable information and no one will be able to connect your responses to you. Your anonymity is further protected by not asking you to sign and return a consent form. Your completion of the questionnaire will serve as your consent. Please keep this cover letter for further reference.

If you have any question about this study, you may call me at 0941-907676. This thesis project is approved by St, Mary's University Student Support Office, if you have any questions about your rights as a research participant, you may call the office at 0115524503.

Please return the questionnaire after having completed filling the required information.

Many thanks for your participation.

Instruction: For each of the following six items indicate your response by circling it.

Part one: General information:

1.1 Your Gender: A. Male--- B. Female---

1.2 Your age category:

A. 24-30 Years B. 31 – 40 Years C. 41 – 50 Years D. 51- 60 Years

1.3 Your Organization's area of specialization:

A. Building B. Road C. Water Works

1.4 Your Position /role in the company:

A. Project Engineer B. project Coordinator C. Office Engineer D. Site Supervisor

1.5 Your Educational Level:

A. Diploma B. BSc/BA C. /MSc/MA D. PhD

1.6 Your work experience in construction projects and construction project related works:

A.1-5 year's B. 6 -10 years C. 11-15 years D. Above 15

Part Two:

Listed below are statements about project time management practice.

Please rate your level of agreement for each statement by putting [X] in the box for your response (only one) on the following scale of 1 to 5 where:

1= strongly disagree; 2= disagree; 3 = Neutral; 4=Agree; 5= strongly agree.

Statements about project time management practice.	**1**	**2**	**3**	**4**	
1. Use of scheduling tools					
Schedule network analysis has been used in Noah Real Estate.					
What-if scenario analysis technique has been used in Noah Real Estate.					
Applying leads and lags technique has been used in Noah Real Estate.					
Graphic representation has been used for projects' activity, the time it takes to complete them and the sequence in which they must be done. i.e., Gantt chart or PERT					
Critical path Analysis has been used for searching at all the activities that ought to be completed					
Schedule Compression has been used for shorten the total duration of a project by decreasing the time allocated for certain activities					
2. Schedule Tracking and Control	**1**	**2**	**3**	**4**	
Critical Path Method (CPM) has been used in Noah Real Estate.					
Critical Chain Method (CCM) has been used in Noah Real Estate.					
Project performance review and trend analysis has been made at regular intervals for Noah Real Estate projects.					
Resource optimization techniques have been used in Noah Real Estate such as project planning and scheduling, Just-in-Time (JIT) delivery, prefabrication and modularization etc.					

Earned value/EV/ analysis has been used in controlling projects					
3.Time estimation techniques	**1**	**2**	**3**	**4**	
Relying on the experience and expertise of project team members to estimate task durations has been considered.					
Basing estimates on similar activities or projects that have been completed previously has been considered.					
Gathering optimistic, pessimistic, and most likely estimates for a task and using a formula to derive the expected duration has been practiced.					
4. Resource allocation and leveling	**1**	**2**	**3**	**4**	
Resource forecasting and capacity planning has been done.					
Skills inventory and resource matching has been done					
5. Project cost performance	**1**	**2**	**3**	**4**	
The organization's projects have been completed within their original budgeted and cost targets.					
Unexpected costs or cost overruns impacted the financial performance of most projects					
6. Project quality outcomes	**1**	**2**	**3**	**4**	
Feel satisfied with the overall quality and functionality of the final project deliverables					
Most projects required significant rework or remediation after delivery due to quality issues.					
7. Stakeholders satisfaction	**1**	**2**	**3**	**4**	
Key project stakeholders (e.g. customers, sponsors, end-users) satisfied with the outcomes of projects implemented.					
Noah Real Estate has been effective at managing stakeholder engagement and communications for projects					

"Your cooperation and the time you've dedicated to this is greatly appreciated. Thank you.

Interview questions

1. Can you describe the project time management practices employed by Noah Real Estate, and how they impact project cost, quality, and stakeholder satisfaction?

2. Can you explain the challenges you have faced in managing project schedules and timelines in your role at Noah Real Estate? How do you think these challenges can be addressed?

3. What do you think are the key factors contributing to delays in project timelines at Noah Real Estate? How do you think these delays can be minimized or avoided in the future?

4. How do you think Noah Real Estate can improve its project time management processes and procedures to better align with best practices in the industry? What training or support do you think would be necessary to make this happen?

Appendix: SPSS Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson

1	.891[a]	.793	.773	.20564	2.084

a. Predictors: (Constant), Resource_Allocation_and_leveling, Time_Estimation_Techniques, Use_of_Scheduling_tools, Schedule_Tracking_and_Control

b. Dependent Variable: Effectiveness_of_Project_Time_Management

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.488	4	1.622	38.357	.000[b]
	Residual	1.692	40	.042		
	Total	8.180	44			

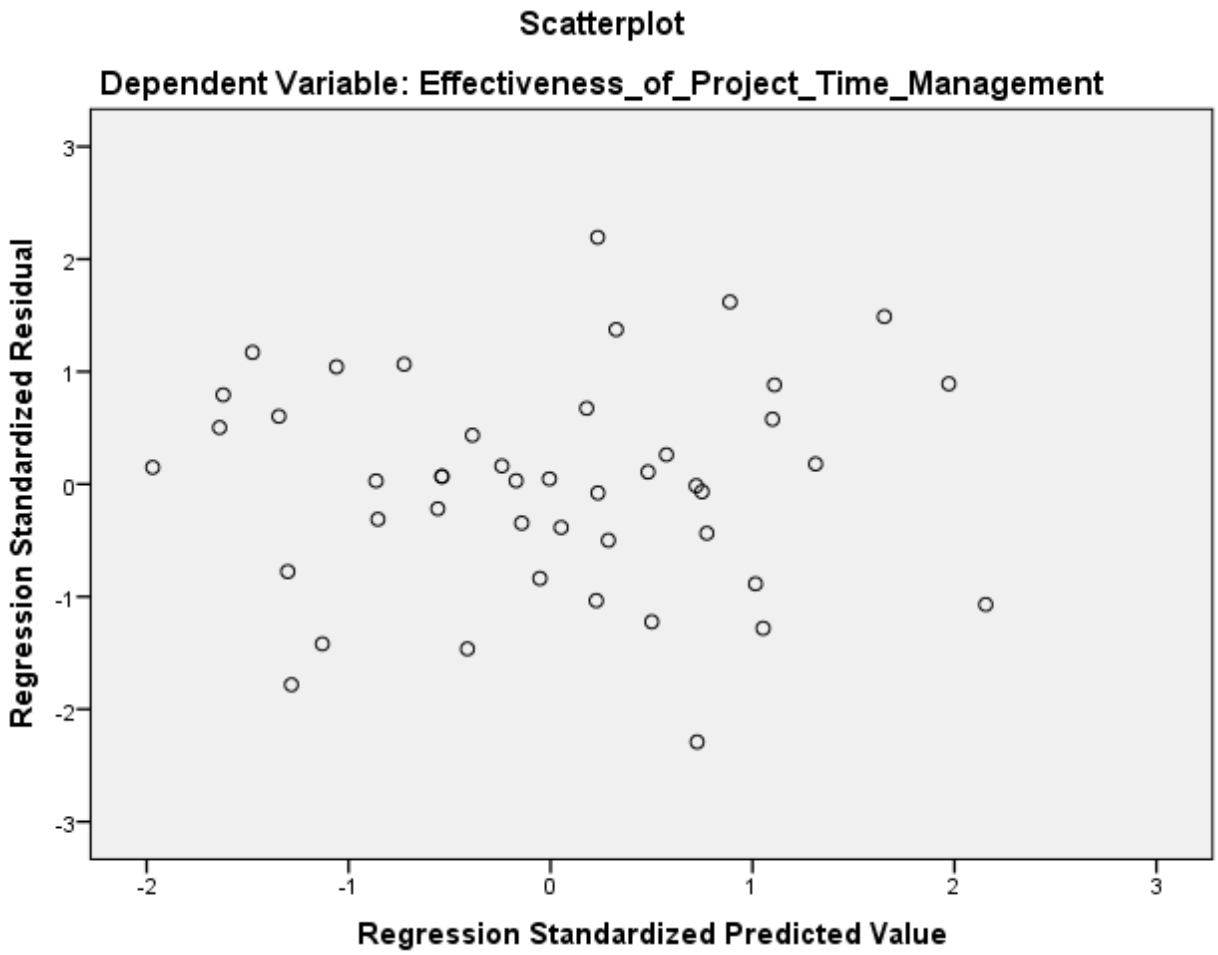
a. Dependent Variable: Effectiveness_of_Project_Time_Management

b. Predictors: (Constant), Resource_Allocation_and_leveling, Time_Estimation_Techniques, Use_of_Scheduling_tools, Schedule_Tracking_and_Control

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.986	.198		4.970	.000
	Use_of_Scheduling_tools	.185	.066	.281	2.784	.008
	Schedule_Tracking_and_Control	.093	.064	.164	1.444	.156
	Time_Estimation_Techniques	.166	.054	.330	3.076	.004
	Resource_Allocation_and_leveling	.243	.085	.284	2.859	.007

a. Dependent Variable: Effectiveness_of_Project_Time_Management



Descriptive Statistics

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Schedule network analysis has been used in Noah Real Estate.	45	-.125	.354	-1.454	.695
Applying leads and lags technique has been used in Noah Real Estate.	45	-.079	.354	-1.155	.695
Graphic representation has been used for projects'	45	-.702	.354	-.180	.695
Critical path Analysis has been used for searching at all the activities	45	.227	.354	-1.792	.695
Schedule Compression has been used for shorten the total duration of a project	45	.170	.354	-.909	.695
Critical Path Method (CPM) has been used in Noah Real Estate.	45	.447	.354	-.739	.695

Critical Chain Method (CCM) has been used in Noah Real Estate.	45	.235	.354	-1.091	.695
Project performance review and trend analysis has been made at regular intervals	45	.074	.354	-.663	.695
Resource optimization techniques have been used in Noah Real Estate	45	-.145	.354	-1.064	.695
Earned value/EV/ analysis has been used in controlling projects	45	-.245	.354	-.681	.695
Relying on the experience and expertise of project team members to estimate task durations has been considered.	45	.071	.354	-1.158	.695
Basing estimates on similar activities or projects has been considered.	45	-.120	.354	-1.408	.695
Gathering optimistic, pessimistic, and most likely estimates for a task has been practiced.	45	-.325	.354	-1.005	.695
Historical data is used to estimate project time	45	.009	.354	-1.256	.695
Time traking software is used to estimate project time	45	-.094	.354	-1.201	.695
Resource forecasting and capacity planning has been done.	45	-.278	.354	-1.166	.695
Skills inventory and resource matching has been done	45	.198	.354	-1.286	.695
The process result in the best skills match	45	.853	.354	-.802	.695
The resource allocation is transparent and visible process	45	-.536	.354	-.072	.695
The resource allocation is dynamic that can be changed in real time	45	-1.127	.354	1.316	.695
The organization's projects have been completed within their original budgeted and cost targets.	45	.182	.354	-1.850	.695
There is awell defined project cost management plan	45	.174	.354	-1.600	.695
funding is allocated based on cost etimation	45	-.585	.354	-.228	.695

project budget is determined based on potential risks and project scope baseline	45	.086	.354	-.796	.695
Unexpected costs or cost overruns impacted the financial performance of most projects	45	-.823	.354	-.718	.695
Feel satisfied with the overall quality and functionality of the final project deliverables	45	.997	.354	-.357	.695
The system as delivered meet user expectations	45	-.255	.354	-1.444	.695
There is clear and measurable quality goals	45	-.341	.354	.110	.695
There is systematic audits and process reviews to check quality	45	.277	.354	-1.226	.695
Most projects required significant rework or remediation after delivery due to quality issues.	45	.407	.354	-1.161	.695
Key project stakeholders that are satisfied with the outcomes of projects are implemented.	45	-.024	.354	-.463	.695
Noah Real Estate has been effective at managing stakeholder engagement	45	-.127	.354	-1.409	.695
mutually beneficial discussin is hold with stakeholders	45	.356	.354	-1.146	.695
A foundation of trust in the stakehlders is stablished	45	-1.800	.354	2.250	.695
Stakeholders are invited for incoming open houses	45	.166	.354	-.967	.695
Valid N (listwise)	45				