

ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE

MA PROGRAM IN PROJECT MANAGEMENT

"AN ANALYSIS OF PROJECT HUMAN RESOURCE MANAGEMENT PRACTICES AND THEIR INFLUENCE ON PROJECT PERFORMANCE IN FLINTSTONE ENGINEERING S.C''

BY: NIGIST BELETE

ADVISOR: DR. MAHIR JEBRIL (PHD)

JUNE, 2026

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TO BE SUBMITTED IN PARTIAL FULFILLMENT FOR THE DEGREE OF MASTERS OF PROJECT MANAGMENT

BY: NIGIST BELETE

ADVISOR: DR. MAHIR JEBRIL (PHD)

JUNE, 2026

ADDIS ABABA

STATEMENT OF DECLARATION

I, Nigist Belete, the under signed, declare that this thesis entitled “An Analysis of project Human Resource Management Practices and Their Impact on Project Performance in Flintstone engineering S.C’’. I have undertaken the research work independently with the guidance and support of the research supervisor. This study has not been submitted for any degree or diploma program in this or any other institution and all sources of materials used for the thesis has been duly acknowledged.

_____	_____	_____
Name of student	Signature	Date

STATEMENT OF CERTIFICATION

This is to certify that the thesis entitled "An Analysis of project Human Resource Management Practices and Their Impact on Project Performance in Flintstone engineering S.C'' was submitted in partial fulfilment of the requirements for the degree of masters of project management of the Postgraduate Studies, Addis Ababa university and a record of original research carried out by Nigist Belete (GSE/9272/16), under my supervision, and no part of the thesis has been submitted for any other degree or diploma. The assistance and help received during the course of this investigation have been duly acknowledged. Therefore, I recommend that it should be accepted as fulfilling the thesis requirements.

_____	_____	_____
Name of Supervisor	Signature	Date

This is to certify that the thesis prepared by Nigist Belete, entitled "An Analysis of project Human Resource Management Practices and Their Impact on Project Performance in Flintstone engineering S.C'' is submitted in partial fulfillment of the requirements for the award of a Master's Degree in project Management. with the regulations of the University and meets the accepted standards with respect to originality and quality.

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ABBREVIATION AND ACRONYMS

ANOVA - Analysis of Variance

HRM - Human Resource Management

ISO - International Organization for Standardization

PHRM - Project Human Resource Management

PMBOK - Project Management Body of Knowledge

PMI - Project Management Institute

R - Correlation Coefficient

R^2 - Coefficient of Determination

S.C. - Share Company

SPSS - Statistical Package for the Social Sciences

VIF - Variance Inflation Factor

B - Standardized Beta Coefficient

Abstract

This study examines the effect of project human resource management practices on project performance in Ethiopia's construction sector, with a focus on private real estate. Construction projects in the country commonly face delays, cost overruns, and quality issues, prompting this investigation into whether human resource practices meaningfully influence project outcomes at Flintstone Engineering S.C, an established Ethiopian private real estate firm operating multiple project sites. A mixed-methods approach combining quantitative and qualitative research was employed. Quantitative data were gathered through structured questionnaires distributed across three active project sites Summit Beshale, Arba Dereja, and Aware involving 57 project staff members. Qualitative data were obtained through three key informant interviews. The study examined four independent variables: project team member selection, training and development, performance appraisal, and recognition and reward systems, with project performance as the dependent variable. Descriptive analysis revealed moderate implementation levels across all four practices. Multiple regression analysis showed that the four variables collectively explained 49.5% of the variance in project performance. Among them, recognition and reward systems demonstrated the strongest positive and statistically significant effect ($\beta = 0.545$, $p < 0.001$), while the remaining variables showed positive but non-significant influences, with training and development showing no notable effect. Interview findings further revealed implementation gaps in team selection and performance appraisal processes, alongside inadequate training practices, supporting the regression results. Overall, the study provides context-specific empirical evidence on human resource management in Ethiopian private real estate and offers practical recommendations for improving project delivery through more effective people management.

Key words; project human resource management, project team selection, project performance, and recognition and award systems, training and development

CHAPTER ONE

1. INTRODUCTION

This chapter presents the background of the study, problem statement, research questions, objectives of the study, research hypotheses, importance of the study, scope and limitations of the study, operational definitions of terminologies, and the organization of the study. It provides the foundation for the analysis of the effect of project human resource management on project performance at Flintstone Engineering S.C.

1.1 Background of the study

Human resource management may be referred to as people management in organizations. It involves all activities, processes, and policies relating to the recruitment, development, utilization, evaluation, maintenance, and retention of adequate numbers of skilled workers who will help the organization achieve its objectives. In human resource management, emphasis should be made on the effective contribution of employees to ensure efficiency and effectiveness, as well as achieving their own goals, such as having a fulfilling job, and society's goals, such as taking responsibility (Kurea, 2025)

On the other hand, human resource management for projects involves the effective deployment of manpower for projects (PMBOK, AGuide to the Project Management Body of Knowledge (PMBOK Guide), 2008)there will be changes in both the number and kinds of personnel to be employed during the course of the project. Human resource management for projects involves the planning of human resources, acquiring project team members, development of project team, and management of project team. Planning of human resources involves the process of determining roles and responsibilities, competencies needed, and reporting relationships and documentations thereof in the form of staff management plans (PMBOK, A Guide to the Project Management Body of Knowledge, 2008)

Construction industry is described as a project-oriented business where the success of the organization heavily depends on its ability to accomplish projects within the stipulated boundaries of time, cost, quality, and scope. However, despite technological improvements in construction and project management, various construction and real estate projects in developing countries have continued to exhibit problems such as project delays, cost overrun, quality problems, and inability to meet stakeholder expectations (Pinto, 1988) There is increasing research evidence that the persistent

performance problems experienced by construction projects in many developing countries are due to poor human resources management in project management rather than any other reason (Belout A. &., 2020)

Flintstone Engineering S.C. is a privately owned company dealing with engineering and construction business. The company operates in Ethiopia within the construction and real estate sector and undertakes various projects which entail high dependence on human resource for the project. Operation requires interdisciplinary and labor-intensive nature, which necessitates the need for effective human resource management for projects to succeed. Though the firm is experienced in the field, there have been problems associated with project timeliness, budgeting, and quality; hence, knowing the human resource management practices of the firm is crucial for boosting project performance.

According to Armstrong and Taylor (2023) programs for developing employees enhance their competence as well as organizational effectiveness. Moreover, Dessler (2020) highlights that performance appraisal helps organizations control and enhance employee performance, whereas Vroom (1964) expectancy theory has been reinforced by recent motivation studies, which show that employee recognition and reward systems significantly improve commitment and performance (Aguinis, 2023)). However, despite theoretical propositions about the influence of these factors on project performance, the results of empirical studies of such factors as project team member selection, development and training, performance appraisal, and recognition and rewards are mixed across various organizational settings. Thus, there is a need to investigate the influence of these projects human resource management practices on project performance in relation to time, cost, and quality at Flintstone Engineering S.C.

1.2 Statement of the problem

Project Human Resource Management (PHRM) includes the processes of recruiting, training and developing, motivation, and evaluation of members of the project team in order to accomplish the objectives of the project (PMI A. , 2017) Project human resource management is especially significant in case of construction projects due to their labor intensity and multi-disciplinary nature. Research proves that failure to manage human resources in the project through practices such as project team recruitment, training, appraisal of performance, and recognition of rewards may negatively impact the performance of the project due to lack of productivity, poor coordination, little commitment, and poor accountability.

Studies conducted on the construction industry and the real estate sector has indicated that the choice of team members is one of the vital determinants of success in a project. Misalignment in skills, poor role definition, lack of effective communication, and poor teamwork between projects participants are some of the negative impacts associated with poor team member selection for a project (Belout A. &., 2004) (Ifediora, 2019) Training and development activities help develop the technical and management skills of a project team, and lack of training has been associated with low adaptability, high error rate, and poor-quality projects (Loosemore, 2000).Performance appraisal ensures that employees' efforts contribute positively towards meeting organizational objectives, and inadequate performance appraisal systems decrease accountability, motivation, and commitment, resulting in poor project performance ((Armstrong, 2010) Recognition and rewards boost employee motivation and are associated with poor job satisfaction, high staff turnover, and low productivity (Marchington, M., & Wilkinson, A., 2013)

According to different studies done in the construction industry of Ethiopia, it has been seen that within the context of Ethiopia, project performance in the real estate area might be greatly affected by the issues related to human resource management since it has been found that HRM leads to inefficiencies in project process, delays in project process, and inconsistency in project process (Garadew, M., Kebede, T., & Abera, A., 2020,2021) Within the construction and real estate area of Ethiopia, it has been seen that training inadequacies, poor performance management, and employee motivation inadequacy lead to inefficiency in the project process (Seble Gebresilasei, 2022)

According to some theories, there may be a connection between the impact of human resource management practices for projects on their performance since these practices determine the ability, motivation, and behavior of employees. According to the Human Capital Theory, suggested by Becker (1993), the knowledge, skills, and competences of employees are considered valuable assets that help achieve better performance results. Thus, the selection, training and development, as well as performance appraisal practices of employees, should result in improving their abilities and increasing productivity. In a similar way, the Ability-Motivation-Opportunity (AMO) theory, put forward by Appelbaum et al. (2000), states that the performance of employees will be better when organizations develop their abilities, motivate them to perform, and create opportunity to contribute.

In addition, the Social Exchange Theory proposed by (Russell Cropanzano and Marie S. Mitchell, 2022) argues that workers are generally responsive to the favorable treatment by the organization by showing their positive behavior and attitude. Thus, recognizing and rewarding workers can improve their commitment and motivation towards their work and contribution to the objectives of the

organization. Since workers feel appreciated and rewarded for their work, they become more motivated and committed. As a result, it is anticipated that recognition and reward practices will help in improving the performance of projects by motivating and committing employees.

Although some previous research has attempted to explore the link between HRM practices and organizational performance, most of these studies have concentrated either on public organizations, manufacturing companies, or organizations in general. There is little empirical data on how project team member selection, training and development, performance appraisal, and recognition and reward affect project performance in private engineering and construction firms in Ethiopia. In addition, no empirical study has been found on the specific relationships of the above variables at Flintstone Engineering S.C. Hence, the present study was conducted to explore the effect of project team member selection, training and development, performance appraisal, and recognition and reward on project performance through time, cost, and quality measures at Flintstone Engineering S.C.

1.3 Research question

1. How is project team selection, training and development, performance appraisal, and recognition and reward implemented at the moment in Flintstone Engineering S.C.?
2. How do project team selection practices influence project performance?
3. To what extent do training and development practices influence project performance?
4. How do performance appraisal practices affect project performance?
5. How practices of recognition and reward influence project performance in the company?

1.4 Objective of the study

1.4.1 General objective of the study

The general objective of the study is to analyze project Human Resource Management Practices and Their Impact on Project Performance in Flintstone engineering S.C.

1.4.2 Specific objectives of the study

1. To examine project human resource management practices of the company.
2. To evaluate the impact of project team selection practices on project performance.
3. To analyze how the training and development practices influence project performance.
4. To determine the effect of performance appraisal practices on project performance.

5. To investigate how practices of recognition and reward influence project performance.

1.5 Significance of the study

Practical Importance of Research Study: It is expected that through this research, Flintstone Engineering S.C. will gain practical insights into the impact of Project Human Resource Management on project performance. This is critical because the company will easily figure out means of addressing issues of project delays, over spending and poor quality project output.

Academic Importance of Research Findings: The proposed research study is likely to add more to existing body of knowledge about Project Human Resource Management. Furthermore, the research will add more to existing literature on Human Resource Management and its impact on project performance, especially in the private sector.

1.6 Scope of the study

1.6.1 Content scope

This research investigates the role of project human resource management practices and its influence on project performance at Flintstone Engineering S.C., Ethiopia. The scope of the study was be restricted to certain important selected project human resource management practices that will be mentioned in the statement of the problem which include project team selection, training & development, performance evaluation, and recognition & rewarding.

In addition, this study considers project performance indicators concerning time, cost, quality, and the realization of the objectives of the project. The scope of the research will be restricted to project activities only and will exclude other human resource management practices of the organization which are not directly related to projects.

1.6.2 Geographical scope

The research is confined to Flintstone Engineering S.C. only and does not consider other construction or engineering companies. A quantitative methodology was employed in conducting the research using primary data collected from project managers, engineers, supervisors, and members of the project team working on the projects of Flintstone Engineering S.C.

The findings made from the research only apply to the conditions prevailing at Flintstone Engineering S.C. and will not apply to other construction or engineering companies in Ethiopia.

1.7 Thesis organization of the study

The study divided into five chapters. Chapter one entails the introduction where the background of the study, statement of the problem, research objectives, research questions, significance of the study, scope and the limitation of the study are presented along with the organization of the paper. Chapter two highlights the review of literature, which comprises both the theoretical as well as empirical review of the studies that have been undertaken on the practices of human resource management practices and their impact on the performance of the project. Chapter three deals with the research methodology, which entails the research design, population, sample size determination, sampling technique, data collection techniques, data analysis procedure and reliability and validity. Chapter four deal with finding, and discussions and the last chapter present conclusion and summary.

CHAPTER TWO

2. RELATED LITERATURE REVIEW

This chapter reviews all the relevant literature associated with the research being conducted. This includes the conceptual literature regarding the topic of project management, project human resource management, and project performance. In addition, this chapter includes the theoretical background of the study, such as the theory of Ability, Motivation, and Opportunity (AMO Theory), Human Capital Theory, and Social Exchange Theory. Furthermore, the empirical literature associated with project human resource management and project performance is provided along with the conceptual framework and hypotheses for the research.

2.1 Theoretical reviews

2.1.1 Project

A project can be described or defined using several definitions. According to the PMBOK definition, a project can be termed as a temporary effort initiated in order to develop a unique product, service or outcome. A project can also be defined as a set of activities that are unique, complex, interrelated and have one purpose or objective, all of which need to be accomplished within a certain deadline and on budget (Wysocki, 2014)Another definition of a project is an undertaking where human, monetary and physical resources are combined in an innovative manner in order to perform unique work within specified boundaries of expenditure and duration in order to effect useful change through quantitative and qualitative goals (Turner, 2009)The key characteristics of a project include; clear start and end points since it is a temporary undertaking; budget; clearly defined scope of work; and certain performance criteria that need to be fulfilled.

2.1.2 Project Management

Project management involves the utilization of processes, techniques, skills, knowledge, and experience to accomplish certain project objectives by meeting the criteria set forth for the project's acceptance. Project management could also be defined as the planning, scheduling, and control process of a project aimed at achieving certain goals. Project management has deliverables with restrictions on the amount of time and money involved (PMI, 2017)

2.1.2.1 Core Concepts in Project Management

2.1.2.1.1 Project Life Cycle

Project life cycle means the series of phases that projects go through in the process of their completion, starting with their initiation until completion. According to Project Management Institute (PMI, 2017) a typical project life cycle comprises five phases of initiation, planning, execution, monitoring and controlling, and closing. All of these phases are aimed at meeting the goals of a project and helping manage project activities effectively. Human resource management activities like staffing, training, performance appraisal, and motivation of employees take place at different stages of the project life cycle. Given that the performance of projects is measured in terms of time, costs, and quality aspects, it is crucial to manage project personnel effectively during the project life cycle.

2.1.2.1.1 Psychological contract

Psychological contract is defined as the implicit obligations between employers and employees, apart from any formal arrangement between both parties. According to (Rousseau, 1989)the employees have beliefs about what they need from the organization and vice versa. If the organization meets the expectations by treating employees fairly, developing their skills, performance appraisal, and rewarding them, employees exhibit increased commitment and performance. Otherwise, the breach of the psychological contract will demotivate the employees. Hence, psychological contract theory provides a framework for understanding the impact of human resource management on projects.

2.1.3 Project Management Knowledge Areas

The ten basic categories of knowledge for project management include: project integration management, project scope management, project time management, project cost management, project quality management, project human resources management, project communication management, project risk management, project procurement management, and project stakeholder management.

2.1.3.1 Project Human Resource Management

Human resource management is a function within management that focuses on handling people at work in an organization. According to Armstrong (2006: P1), HRM is a strategic and coherent approach to the management of an organization’s most valuable resources the people working in it, who as

individuals or groups contribute to the realization of organizational goals. As suggested by (Storey, 1989) cited in Armstrong, 2006: P1), HRM could be perceived as 'a set of interrelated policies with an ideological and philosophical foundation'. (Jackson, Human Resource Management , 2006)PP11-13) noted that human resource management encompasses a range of functions, including HR planning and analysis, equal employment opportunity, staffing, HR development, compensation and benefits, health, safety, and security, and employee and labor/management relations.

Within human resource management, project human resource management is responsible for organizing, managing, and leading the project team. The project team comprises members with assigned roles and responsibilities for implementing the project. It is an essential task of project management to ensure appropriate staffing of the project with the required skills available at the correct place and time.

While it is true that roles and responsibilities have been allocated to the members of the project team, it is equally essential that they participate in the entire project planning process so as to bring in their own expertise in this regard along with motivating them so as to increase their commitment towards the project. As per the PMI (2013: P266), there are four major project human resource management processes that include:

2.1.3.2 Human Resource Management Theories

2.1.3.2.1 Ability-Motivation-Opportunity (AMO) Theory

The Ability-Motivation-Opportunity (AMO) Theory was developed by (Eileen Appelbaum, 2000) The theory argues that employee performance depends on three key factors: ability, motivation, and opportunity to participate. Ability is concerned with the knowledge and skills of employees, motivation relates to the readiness of employees to put in efforts, while opportunity is concerned with the environment which helps employees to perform their work efficiently. Regarding this study, employee selection and training improves abilities of employees, performance appraisal creates opportunities for better performance, and recognition and rewards motivate employees. Hence, the AMO Theory offers a complete framework to explain how human resource management affects project performance.

2.1.3.2.2 Human Capital Theory

Human capital theory was first proposed by (Becker, 1961) and later on was expanded upon by Becker (1993). This theory suggests that the workers have a number of skills and competencies which help organizations achieve success. The investments made for the purpose of recruiting, developing and managing the performance of employees improve their productivity and efficiency. Human capital

theory can be applied to this study because selection, development and appraisal of project team members would increase their efficiency and ultimately lead to improved project performance.

2.1.3.2.3 Social Exchange Theory

Theoretical underpinnings in social exchange theory are based on notion of norms of reciprocity, which were first introduced by (Gouldne, 1960) Expanding upon this theoretical framework, (Blau, 1963) additionally proposed that social interdependent relationships are formed through the mutual exchange of sentiments. Social exchange theory is significant they that effectively utilized to elucidate the dynamics of the employer-employee relationship within an organizational context. The idea is predicated upon the supposition that it is influenced by the standards of fairness (Boselie, 2010)In this study, the theory provides a foundation for explaining the relationship between recognition and reward practices and project performance.

2.1.3.4 Established Human Resource Management Models

2.1.3.4.1 Maslow's Hierarchy of needs

(Maslow, 1943) proposed that human needs are arranged in a hierarchy consisting of physiological needs, safety needs, social needs, esteem needs, and self-actualization needs. As per the theory, people will always try to fulfill their lower level needs first and then look for fulfilling higher level needs. Organizations can increase employee motivation and productivity by satisfying such needs through proper human resource management practices including training, performance evaluation, job security, and career development.

2.1.3.4.2 The Harvard Framework

The Harvard Framework was developed by (Michael Beer, 1984) and is one of the most influential models in human resource management. The framework emphasizes that human resource management decisions should consider stakeholder interests, situational factors, HRM policy choices, employee outcomes, organizational effectiveness, and long-term consequences. The model views employees as valuable organizational assets and highlights the importance of integrating HRM practices with organizational objectives. The framework supports this study by emphasizing the strategic importance of project human resource management practices in achieving project performance.

2.1.3.4.3 The Guest Model

The Guest Model is derived from (Guest, 1987)) and states that HRM practices help build commitment, flexibility, quality, and performance among employees. The Guest Model implies that HRM practices have an impact on behavior of employees, which further results in performance output. For the current study, the process of selecting project team members, training and development, performance appraisal, and rewards are expected to increase employee commitment and effectiveness and improve the performance of the project in terms of time, cost, and quality.

2.1.3.4 Human Resource Management Practices

Human Resource Management is considered as a systematic approach towards management that emerged in the latter part of the previous century (Michael Armstrong and Stephen Taylor, 2014) In relation to human resource management, it is apparent from a wide range of models and researches that a strong link exists between the effectiveness of human resource management practices and the performance of organizations. It was observed that the cost incurred to implement these practices leads to the attainment of positive organizational performance (Datta, 2003)In similar lines, (Wright, 2003)) also argues that commitment of organizational members to their organizations plays an important role in the success of organization. (Singh, 2004)Reported that selection of teams, training and development, performance appraisal, recognition and rewards were strongly linked with the success of organizations. Similarly, in another research conducted by (Björkman, 2001)), it was reported that human resource practices had a positive impact on all organizational members and thus contributed towards the ultimate organizational performance.

In this sense, project management is a unique undertaking, and time is restricted (PMI, 2008). Human resources become a focus because of their uniqueness and restriction of time. Even though there is a complete chapter devoted to human resources management in PMBOK, the strategies adopted by project-based organizations require much improvement in the area. In this respect, the human resource management process must be defined based on the particular project undertaken, and success achieved by the effective use of human resources.

2.1.3.3 Project Team Selection

The team is made up of the project manager and a team of people who collaborate on the projects to ensure the achievement of the projects' objectives. The team will comprise people drawn from different teams and have particular subject expertise or skills required to execute the tasks in the projects. As it

happens in most cases of project management, project managers usually pick people from different functions within the organizations to work for their projects. They do this by preparing schedules of the different resources that are estimated to be required for their simple forms and then submit them in the form of bids or proposals for consideration by top management (Kerzner, 2003)

A variety of different issues will be considered throughout the negotiation process. Common considerations may include the following: availability on an urgent or long-term basis; capacity; the need for continuity; teamwork skills; unique competencies. The best employees in the organization will always be the most sought-after, which means that a project manager may take some of these employees during the period of the project's implementation. However, their number is likely to be rather small. They will not be available now. This means that the consideration of continuity versus competence is important. (Fekadu, 2021)

2.1.3.4 Project Team Performance Appraisal

Performance management can be described as an organized and holistic approach that aims at ensuring continuous improvement for firms by improving employees' performance and improving the capabilities of teams and individual contributors. (Armstrong M., 2006) Performance appraisal is aimed at assessing if employees employed by a firm are working effectively and are being rewarded fairly. (Kressler, 2003)

Elements of Performance appraisal

- Planning and Setting Expectations: Make work plans through the course of the regularly scheduled one-to-one meetings. A work plan must have a set focus and must include task descriptions, timelines, and required resources.
- Monitoring: Check on the progress through the regular one-to-one meetings.
- Development and Improvement: The time has come to begin fostering development and improvement.
- Reward and Compensation: It is necessary to bring the entire team together for the celebration, which will make them feel a part of the accomplishment.
- Feedback: This is the practice of providing encouragement as feedback for their motivation.

Features of performance appraisal

- Informal or institutionalized: when an appraisal is conducted based on certain principles and procedures, it is termed as formal, while ignoring the above principles and procedures makes it an informal evaluation.

- Open or secret: this type of evaluation can either be public or private.
- Character Based: this kind of performance appraisal assesses personal traits that are vital for success in a particular job or organization.
- Based on tasks: this kind of evaluation does not assess the individual; rather, it concentrates on the nature of the task to be performed.
- Goal-oriented: this kind of evaluation improves task-oriented evaluation techniques by establishing several realistic goals that determine success or failure.
- Results-oriented: this kind of evaluation depends on results over a specified period.

2.1.3.5 Training and Development

Training is an act of conducting learning through the process of systematic and planned instructional exercises. This means that there is a process involved which makes it possible to provide information to employees so that they can develop the skills needed to be effective at work (Armstrong M. 2006).

Importance of training and development

- Skill development
- Productivity improvement
- Quality improvement
- Motivation of employees

Effective training practice

Armstrong (2006) outlined the following key practices for effective training:

- Efficient training involves a systematic process by focusing on skill analysis.
- It is necessary to identify the objective of the training.
- The material included in the training program must correspond to the practical environment of the trainees.
- The training method utilized should match the objective of the training and the nature of the trainees.

Training and development entails improvement and updating of skills, knowledge, competencies and experience of an individual through different training programs (Obeidat, 2014)It is essential to provide skills and competencies to employees due to the competitive world we live in so as to enhance efficiency and performance of the organization (Molla, 2021)

Provision of trainings by the organization will normally result in increased commitment of employees and this can be referred to as the concept of “psychological contract”. This refers to attitudes and behaviors by employees that are influenced by the way they view the efforts made by the organization

in terms of their competency building (Jehanzeb, 2006). According to scholars, it is normally perceived by employees that organizations make investments in their training as a demonstration of their continuous employment and increase in salaries based on the theory of human capital.

2.1.3.6 Reward and Recognition

Reward and recognition management involves everything there is regarding the strategies, policies, and processes needed to make sure that the contributions made by individuals towards the organization are rewarded through monetary and non-monetary methods. This involves the development, administration, and management of the reward systems (reward processes, reward practices, and reward procedures) that are intended to fulfill organizational objectives as well as those of the stakeholders. The ultimate goal is to recognize and reward individuals in an equitable manner in accordance with the worth they bring to the organization for the realization of organizational objectives (Armstrong, 2014).

2.1.3.6.1 Elements of Reward Management

- **Compensation:** This includes monetary incentives given to employees such as salaries, bonuses, and stocks. Compensation is one of the components of reward management (Milkovich, 2008)
- **Performance-based pay**: This involves offering compensation to employees based on the level of their performance. This could be done by using merit pay, bonuses, and commissions (Armstrong M, 2010).
- **Benefits:** Non-monetary rewards that companies offer to their workers, such as health insurance, retirement benefits, and annual leave. Benefits are essential for both attracting and retaining the best employees (Milkovich, 2008).
- **Recognition and rewards:** This involves offering recognition to employees in appreciation of their outstanding performances. Certificates, public acknowledgment, and 'employee of the month' award are some examples of recognition and rewards programs (WorldatWork, 2017)
- **Career development opportunities:** Reward management may include offering career advancement opportunities to workers. Training and mentoring, promotions, and development programs are some of these programs (Pohler, 2016)

2.1.4 Project Performance

In addition, project performance is viewed as a balance between various measures and dimensions with an emphasis on what was accomplished against what was utilized, for example, scope and quality against cost and schedule (Kamyar Kabirifar and Mohammad Mojtahedi,Zheng et al, 2019).Project performance has been described in the literature as the degree to which the project achieves its purpose (Balazs Szatmari, Dirk Deichmann, Jan van den Ende, and Brayden G. King., 2021).While project performance has been extensively studied theoretically and applied in research, the most critical issue remains how to choose "what will be measured" and, even more crucially, how to select the means of performance measurement indicators (Zheng, 2019)It is important to highlight that the overall notion of project performance encompasses schedule performance, quality performance, innovation performance, and benefit performance (Lin, Chia-Chen Chen and Yi-Chen, 2018).

On the contrary, the project management experts argued that project performance is entirely based on the performance of projects which needs to be in compliance with organizational objectives in the long run. In simple terms, the definition of project performance has always been based on three fundamental constraints: time, cost, and quality (A. Barbosa, et al,A. Younus and H. Younis, 2021).However, due to the varied interests of all the parties involved in the project, different aspects and dimensions are also considered for measuring project performance, including client satisfaction along with time, cost, and scope (Zhu, 2021).

Project Performance Measures are measures that reflect the extent to which a particular construction has performed in terms of time, cost, and quality performance. These three are quite intertwined and thus some compromise between them is inevitable to achieve total control over project performance. The issue of project performance has been of utmost concern to most stakeholders in the construction industry. Projects must perform to accomplish their stated objectives. Satisfyingly accomplishing the set objectives means that the particular project has succeeded.

Project performance refers to an aggregate of time performance, cost performance, and quality performance of a certain project. Successful performance of construction projects depends on their performance, which is determined by timeliness, budget, quality level, and satisfaction of customers. Presently, firms have encountered stiff competition, which has been increasing day by day. The human resource managers should always find means of utilizing human resources effectively to ensure improved project performance (Slevin, 1988)

2.1.5 About Flintstone engineering S.C

Flintstone is one of the 124 real estate companies operating in Ethiopia. In 1992, at its establishment, "Tsedeke Yihune Construction" known as Flintstone Engineering s.c joined the construction industry in Ethiopia as a level 8 building contractor. After one year of its operations, Flintstone engineering was named after the "flint stones" which were used by ancient men to light fire. This illustrates the development and advancement of man with technology and ingenuity since then. It is during this period that Flintstone initiated subcontracting works from already existing companies and embarked on its glorious journey, increasing its capacity for construction management and labor along the process. Flintstone became one of the leading construction and real estate companies in Ethiopia. Flintstone Engineering being a construction company established in 1991 started Flintstone Houses as its real estate project in 2008.

Flintstone Engineering is a well-known construction firm established on October 1991. It is famous for providing an exceptional combination of affordability and high-quality performance. From its inception in 2007, during which there was a shortage of electricity, cement, and finance, the quality management system of Flintstone Engineering received ISO-9001-2000 certification. Thereafter, the total construction income of Flintstone Engineering exceeded the 100 million threshold. The amount accounted for over 20% of the total investment, which was much higher than the average 10% of other local industries. (Bitanya, 2023)

2.2 Empirical reviews

A study carried out in Nigeria by (Christian O. Ifediora, 2020) ends up concluding that human resource management variables significantly affect construction projects' performance in terms of cost and time. Several human resource management variables had significant associations with cost-performance, whereas fewer variables had significant associations with time-performance. In summary, human resource management variables have an impact on project performance, but the association is not entirely controlling

The study by (M. S. Ghattas, 2022) in Egypt concludes that human resource management significantly impacts project performance in the real estate industry. He notes that human resource management practices such as recruitment, training, performance management, and employee well-being increase employees' dedication and organizational performance.

Study done in Pakistan Lahore Punjab (Inayat., Mavia Iqbal and Rabia, 2022) on Human Resources Practices Influence on Project Success the findings indicates that there is a significant effect of human resource management on project success. These are important human resource factors which ensure project success in the construction organization. They include effective performance appraisals, job satisfaction among employees, and reward and compensation.

The study done in Jimma Agaro Didesa Road Construction conducted by (Shambel A. , 2021) found out that reward and recognition strategy, performance management and talent & competency management are the three critical human resource management practices that determine the success of the construction industry. Additionally, employee retention, change management and engagement are among the key human resource management challenges facing construction companies. Top management support was found crucial in the implementation of human resource practices.

According to (Miraf, 2024) in Federal Housing Corporation a case, human resource management practice plays a huge role in the success of the organizations. The research indicated that effective HR practice such as recruiting, training and development, performance evaluation and motivation improved organizational performance. It was suggested that Human Resource Management practice should be improved to enhance organizational performance.

In addition, according to (Fekadu M. , 2022) in commercial bank of Ethiopia, significant HR practices were found at moderate levels; however, there were shortcomings in implementing such practices. These shortcomings included team/project selection process, performance appraisal process and reward/recognition practice in terms of fairness, transparency, timeliness, motivation. There were good training and development practices since training had appropriate content, trainer and techniques used to develop project skills.

2.2.1 Research gap

Though some researches have been conducted about the association between the application of project human resource management practices and the performance of projects, such researches are contextualized and narrow. The majority of those past researches were done in foreign nations or in public organizations, whereas no researches have been conducted in the local private engineering organization of Ethiopia. In addition to that, the past researches did not adequately focus on the joint effect of several project human resource management practices such as project team selection, training and development, performance appraisal, and recognition and rewards in an organizational context. Since different organizations have distinct contexts, the result found from other organizations and nations cannot be applied in the context of a private engineering company in Ethiopia. Therefore, there

is a necessity for conducting an empirical research in an organizational context to understand the project human resource management practices and their impacts on project performance.

2.2.2 Conceptual framework

The conceptual framework utilized in this study was formulated by Miraf Legesse (2024) who termed it “Conceptual Framework for Relationship between Selected Human Resource Management Practices and Project Performance". The framework attempts to establish a conceptual definition for the manner in which the selected human resource management practices operate, specifically their relationship with project performance in a project-based organization. It is fitting to use this conceptual framework because of its connection to the aims and variables used in this research as well as similarities in context to the country.

In the light of this particular conceptual framework, project human resource management practices will be regarded as independent Variables while project success as the dependent variable. This framework operates on the premise that proper human resource management in projects can lead to project success.

2.2.3 Independent Variables: - Project Human Resource Management Practices

2.2.3.1 Project Team Member Selection

The selection of project team members involves recruiting members of the team who have the right kind of skills and knowledge necessary to successfully complete their allocated projects. The selection of team members within the selected framework ensures that the members involved are competent enough to effectively perform tasks related to their allocated projects.

2.2.3.2 Training and Development

The term training and development, on the other hand, refers to an organized initiative aimed at improving the technical, managerial, and interpersonal skills of the team members involved in a certain project. From the chosen framework, it can be seen that training and development is one important element in Human Resource Management, thus becoming a key determinant of success in any given project.

2.2.3.3 Performance Appraisal

In terms of project management, the term performance appraisal refers to the assessment of the performance of the project team in relation to predetermined objectives and criteria of performance. It should be noted that the adoption of the framework makes it clear that there is high likelihood of success in cases where performance appraisal is employed.

2.2.3.4 Recognition and Reward Systems

Recognition and reward programs could comprise financial and/ or non-financial rewards offered to members of the project management team in recognition of their performance and achievements. In the underlying framework of recognition and reward programs, recognition and reward programs serve as motivation mechanisms in improving the level of commitment of members of a project management team for the completion of relevant projects.

2.2.4 Dependent Variable Project Performance

Under the underlying framework, the level of performance of the project is measured based on how far the project has been able to attain its objectives in relation to its duration, its cost, its quality, its scope and the satisfaction levels of the stakeholders. The framework assumes that the management of human resources in carrying out the project will positively influence project performance.

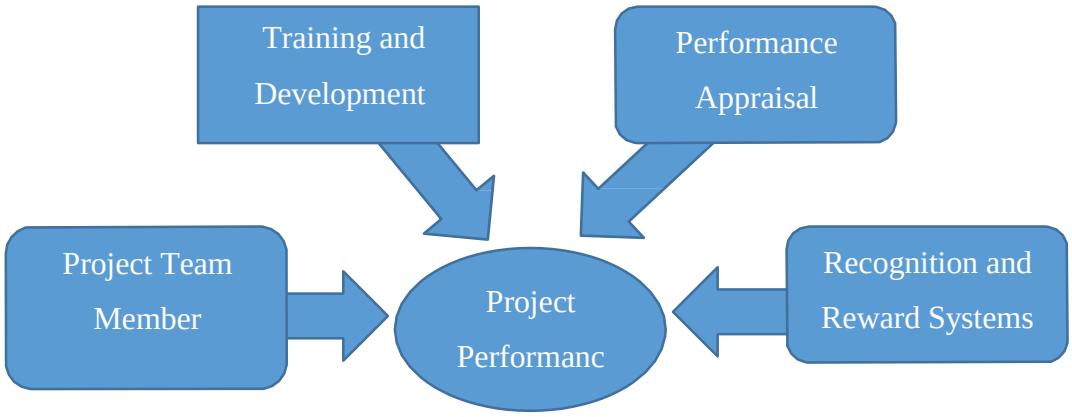


Figure 1 :- Conceptual framework by Miraf Legesse (2024)

Source:-adopted from (Miraf Legesse, 2024).

2.2.5 Hypothesis of the study

H1: - project human resource management practices have a significant impact on project performance in Flintstone Engineering S.C

H2:- Project team selection practices have a significant positive impact on project performance.

H3:- There is a significant positive relationship between training and development practices and project performance.

H4:- Performance appraisal practices have a significant positive influence on performance in projects.

H5:- Recognition and reward practice influences project performance to a significant positive degree.

CHAPTER THREE

3. RESEARCH METHODOLOGY

This chapter present the methodology used to accomplish the aims of the study. This chapter present the research methodology, research method, data sources, data collection procedure, data analysis technique, validity and reliability concerns, and ethical concerns.

3.1 Research approach

A mixed-method research method was used in this study. It involved qualitative and quantitative dimensions. The quantitative dimension became the main method for assessing the connection between project human resource management activities and project performance. The qualitative dimension was used to provide supplementary information that would enrich the insights gained from the quantitative analysis about human resource management practices in project settings.

3.2 **Research Design**

Research design refers to the general methodology adopted to facilitate the process of data collection, measurement, and analysis in a study. As indicated by (Mark N. K. Saunders, Philip Lewis, and Adrian Thornhill, 2019)the purpose of a research design is to ensure that research questions are answered in a systematic manner and that valid and reliable results are obtained. The following research design was used for this study based on the nature of the research questions and objectives.

3.2.1 Design Purpose

Descriptive and explanatory research designs were adopted for the investigation of the study. Descriptive research design was adopted to investigate the current practices of project human resource management at Flintstone Engineering S.C., with regard to project team members' selection, training and development, performance evaluation and reward and recognition. It is noted that according to (John W. Creswell and J. David Creswell, 2018)descriptive research can be applied when the research objective is to describe the attributes and status of a particular phenomenon.

Explanatory research design was adopted to investigate the influence of the project human resource management practices on project performance. Explanatory research aims at identifying the relationship between the variables and determining how the independent variables impact the

dependent variable (Mark N. K. Saunders, Philip Lewis, and Adrian Thornhil, 2019)In this case, the explanatory research design was utilized to establish the influence of project team members' selection, training and development, performance evaluation and reward and recognition on project performance in terms of time.

3.2.2 Design Scope

The research employed a case study research design based on Flintstone Engineering S.C. Case study design provides an opportunity for researchers to carry out an in-depth investigation into a certain organization, an event, or phenomenon in its actual setting (Yin, 2018). It was appropriate for use in the present study since Flintstone Engineering S.C. is engaged in a project-based environment and project human resource management practices are crucial for meeting the goals of project performance. The case study design helped the researcher to gather comprehensive information on the connection between project human resource management practices and project performance in the chosen company.

3.2.3 Design Time Scope

The research used the cross-sectional research design. Cross-sectional design implies collecting information from respondents at a certain point of time without taking into consideration an extended period of time (Saunders et al., 2019). The use of this design was appropriate for the current research since it sought to evaluate perceptions of respondents concerning project human resource management practices and project performance. Moreover, cross-sectional studies are inexpensive and can be applied to establish relationships between certain variables within a definite timeframe.

3.3 Sources of Data collection

The study employed both primary and secondary data sources.

Primary data: - were collected from employees through structured questionnaires.

Secondary data: - were collected from various organizational documents, project reports, manuals, policies, and relevant published and unpublished research materials.

3.4 Description of research area

This research was conducted in Flintstone Engineering S.C., which is a private engineering and construction company situated in Ethiopia. This organization executes various construction works and uses mainly project-based teams. The choice of this organization was made taking into consideration the appropriateness of practices of project human resource management to the activities of the organization and the availability of data on this issue.

3.5 Target population

The study population consisted of workers of Flintstone Engineering S.C. According to the statistics provided by the human resources department of this company (2026), the total number of workers is 173 employees. Contractual and temporary workers were not included in the study sample. The study focused on people engaged in project-related work, which included project managers, site engineers, supervisors, foremen, human resources officers, engineers, and others.

A total of 67 workers took part in the survey by completing the questionnaire, and 57 of their answers were considered relevant. Moreover, interviews were conducted with three respondents: the project human resource manager, a senior project manager, and an engineer who had worked for three years.

3.6 Methods of Data Collection

Primary quantitative data: - was obtained using the structured questionnaire method. This involved administering a questionnaire containing items relating to each of the independent variables and the dependent variable using a five-point Likert-scale whereby respondents indicated strong agreement, agreement, neutrality, disagreement, or strong disagreement.

Primary qualitative data: - was obtained using the interview method. Project manager with six to ten years of tenure, a senior project manager with more than 20 years of experience in the organization, and a site engineer with 3 years of work experience.

Secondary data: - was obtained from a document analysis.

3.7 Sample Size Determination

Due to the manageable size of the population, the study use (Yamane, 1967) formula to determine an appropriate sample size at a 90% confidence level with 10 % margin of errors.

$$n=\frac{N}{1+(Ne^2)}$$

Where:

n = sample size

N = total population

e = margin of error (0.1)

$$n = \frac{173}{1+(173(0.1)^2)}$$

$$n = \frac{173}{1+1.73}$$

$$n = \frac{173}{2.73}$$

$$n \approx 63.4$$

Based on the above formula, the sample size is 63 a representative sample were selected from the total population of organization Accordingly 67 questionnaires were distributed to account for potential non response the returned questionnaire is 57 and three employees were interviewed.

A simple random sampling and purposive sampling was employed to select respondents for the questionnaire to ensure reliable and generalizable results.

3.7.1 Purposive sampling technique

This research involved the use of three construction projects namely Summit Beshale, Arba Dereja, and Aware. The choice of these construction projects was based on purposive sampling since they differ in terms of the level of development of the project. For instance, there is one project that is in its early stage, another one in the middle stage, and finally, the third one is almost completed. Finally, the office of the construction company was considered in order to have sufficient information regarding human resources management and organization policy.

In addition, a purposive sampling technique was used to select key informants for the interview in order to obtain relevant and detailed information.

3.8 Methods of Data Analysis

The collected data were analyzed using both quantitative and qualitative techniques in order to achieve the objective of the study

3.8.1 Quantitative data analysis

The quantitative data were analyzed using the IBM SPSS computer program. The following statistical tests were performed:

Descriptive analysis: - involving frequencies, mean, and standard deviation of the variable to be tested.

Reliability Test: - Cronbach's Alpha test was conducted to test the reliability of the measurement of the variables.

Multicollinearity analysis: - was conducted using Tolerance and Variance Inflation Factor (VIF) to investigate the correlation between the independent variables.

Multiple linear regressions: - was applied to examine the relationship between the independent variables and the dependent variable.

Regression Model

$Y = \beta_0 + \beta_1(IV1) + \beta_2(IV2) + \beta_3(IV3) + \beta_4(IV4)$

Where: -

β_0 = Constant term (intercept)

β_1, β_2, β_3, β_4 = Regression coefficients of the independent variables

Y = Project performance

IV1 = Project team selection

IV2 = Training and Development

IV3 = Performance Appraisal

IV4 = Recognition and Reward

Description of variables

Dependent variable: Project Performance (DV): It refers to the level at which projects attain their goals of time, cost, and quality. Independent Variables: These will be some of the important human resource practices in the context of project management. Project Team Selection (IV1): This is about the process through which employees are assigned taking into consideration their competency required in the project. Training and Development (IV2): This will refer to the extent to which employees are offered

learning opportunities in order to develop competencies that are job-related. Performance Appraisal (IV3): It refers to the appraisal process of employees. Recognition and Reward (IV4): It is the recognition and reward policies for the contribution of staff towards successful completion of projects.

3.8.2 Qualitative data analysis:

Analysis of the data gathered through interviews was done using thematic analysis, wherein the data from interviews were coded into themes to clarify the quantitative findings.

3.9 Validity and Reliability

3.9.1 Reliability

Reliability, meaning the consistency and stability of the measurement tool used, was tested using the Cronbach's Alpha. Using IBM SPSS Statistics, the test was made with 14 samples. The reliability scores for each variable range from 0.832 to 0.922 as shown in the table below. These coefficients mean a medium to high degree of reliability as those that exceed 0.7 are considered acceptable. The measurement tools used in this study are reliable and stable for further tests.

Table 1 :- Reliability analysis results (Pilot test)

Variables	**Number of Items**	**Cronbach's Alpha**	
IV1(Project team selection)	6	0.836	Accepted
IV2(Training and Development)	5	0.832	Accepted
IV3(Performance appraisal)	6	0.922	Accepted
IV4(Recognition and Rewards)	5	0.834	Accepted
DV(Project Performance)	8	0.890	Accepted

3.9.2 Validity

Validity means that the instruments used in studying measure the constructs well. Triangulation is an example of methodological triangulation or validity where both quantitative and qualitative methods were used. The use of interview data helped validate the questionnaire findings.

3.9.2.1 Internal validity: -

Internal validity is associated with the accuracy of demonstrating causality between independent variables and dependent variables in the research. In the current study, several measures were taken to enhance internal validity. For instance, standardized surveys were distributed to all participants across the selected sites including Summit Beshale, Arba Dereja, and Aware. Data analysis using IBM SPSS statistics software helped reduce any possible error and ensured accuracy of the results. Besides, reliability tests, multicollinearity tests, and multiple regression tests were performed to explore the associations between variables while qualitative interviews confirmed internal validity by providing additional explanations and ensuring consistency of quantitative results.

3.9.2.2 External validity

External validity relates to the generalizability of the results obtained in the study to other contexts, populations, or conditions. External validity was ensured in the current study by collecting data from a number of projects in various stages of project development (Summit Beshale, Arba Dereja, and Aware), in addition to gathering data from head offices. Besides, simple random sampling was used to improve representativeness.

3.10 Ethical Considerations

Ethical concerns in carrying out this research have been addressed fully and in line with accepted practices in order to protect the interests and confidentiality of all subjects involved.

- Participation was voluntary. Subjects were made aware of the objective and goals of the research before data collection commenced, and consent was sought prior to participation. It was also made clear that participants could withdraw from the study at any time without suffering any penalties.
- The confidentiality and anonymity of the respondents were maintained during the course of the study. No personal identifiers such as names or positions held were kept in the process of data analysis and interpretation. Information gathered from the subjects of the research at Summit Beshale, Aware, and Arba Dereja project sites, as well as the head office, was for purely academic purposes.
- Data gathered by the researcher was handled responsibly and confidentially; it was not revealed to other parties. The results of the research were presented accurately and objectively without any manipulation.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1. Introduction

The empirical results, data analysis and interpretation of the primary data that was collected for the purpose of conducting research on the analysis of project human resource management practices and their influence on project performance in Flintstone engineering S.C will be presented here. This chapter in a methodological structure transforms the raw data that was collected using questionnaire and interview, where both questionnaire and interviews were done keeping in view the objective of the analysis of project human resource management practices and their overall influence on the project performance. The population chosen for this research study consists of Flintstone engineering S.C employees, where out of 67 questionnaires, only 57 were collected back resulting in a great response rate. For analyzing the data, Statistical Package for Social Sciences (SPSS) software has been used where we have applied the descriptive and inferential statistics. In terms of the structural presentation, first the demographic characteristics of the respondents would be presented in a comprehensive manner, then followed by the analysis of dependent and independent variables in a detailed and descriptive manner. Finally, correlation and regression analysis would be carried out for testing hypothesis.

4.2 Response rate

The purpose of the research is to examine the human resource management strategies used in the project; namely, team member selection, training and development, performance evaluation, and rewards for their effect on project performance in Flintstone Engineering S.C. The surveys were administered in three selected locations and at the company headquarters.

The sample size was determined using Yamane's (1967) formula with a 10 percent margin of error. The number obtained was 63. Sixty-seven questionnaires were issued but only 57 were returned. Even though the sample is somewhat smaller than the one computed, the response rate is around 90.5 percent which is quite impressive.

Table :2 Demographic information of respondents

Demographic Variable	Category	Frequency (N)	Percentage (%)
Gender	Male	36	63.2%
	Female	21	36.8%
Age Group	20–30 Years	20	35.1%
	31–40 Years	25	43.9%
	41–50 Years	8	14.0%
	Above 50 Years	4	7.0%
Educational Level	Diploma	17	29.8%
	First Degree	20	35.1%
	Master's Degree	18	31.6%
	PhD	2	3.5%
Work Experience	1–5 Years	21	36.8%
	6–10 Years	12	21.1%
	11–15 Years	19	33.3%
	Above 15 Years	5	8.8%
Job Title / Position	Project Manager	11	19.3%
	Foreman	10	17.5%
	Engineer	9	15.8%
	Human Resources	3	5.3%
	Other Job Titles	24	42.1%
Total		**57**	**100.0%**

4.3.1 Gender

From the demographic information above regarding the gender distribution, it can be observed that there were 57 participants in the study. Male participants made up 63.2% of all the participants whereas

female participants made up 36.8% of all the participants. Therefore, this clearly indicates a significant variation in the two genders with more males (26.4%) than females participating in the study. The pattern of gender distribution is typical in the construction industry within the region in which there are predominantly male workers. When we go back to our research objectives, this distribution suggests that the human resource management in project teams should consider gender diversity very carefully.

4.3.2 Age

The table above shows how old the respondents may be, bearing in mind that the sample size of the respondents is 57. The first age bracket is respondents who fall within the age range of 31 to 40 years and this constitutes 43.9% of the entire respondents. After that comes the age bracket of 20 to 30 years and this constitutes 35.1% of the total respondents. These percentages sum up to 79%. This figure suggests that this company has an energetic, adaptive and modern labor force. Therefore, the majority of the labor force can be mentored and trained.

4.3.3 Educational Level

From the data, it is apparent that the group having the degree has the highest percentage of people at 35.1%, those with masters at 31.6%, while the ones with the diploma have 29.8%. These groups make up an overwhelming majority of 96.5% of the population with an almost even distribution. The group with the degree makes up the highest number of respondents at 20 persons, while those with a PHD form the lowest numbers with 3.5%. Generally, the population is highly literate, since more than 70% of the people have been to university or other tertiary institutions. The level of literacy indicates that the majority of the workforce can understand complex situations and have the capacity to understand the technical demands of the projects.

4.3.4 Work experience

From the information on the table, the company uses a youthful and gentle workforce of 57 employees with 70.1 percent of the employees having an experience of up to 10 years. The most predominant group of employees in the company consists of employees with (1 – 5) year experience, which makes up 36.8 percent of its total number of employees and 33.3 percent of employees having an experience of 6 -10 years. This data suggests that there is an equilibrium among senior and junior professionals, and this balanced work experience enables the company to blend senior experience with junior vigor through mentorship.

4.3.5 Job Position

From the above data, it is clear that project managers have to integrate 19.3 % of the staff, engineers comprise 15.8%, and foremen make up 17.5%. The human resource managers consist of only 5% of the total number of employees which is just three individuals. On the contrary, there are 24 employees which constitute 42.1% of the total workforce, doing different specialized jobs, where just one or two workers are involved in each specialization. These include positions like supervisors, team leaders, accountants, and logistics. This figure represents the human resource management in real world environment since they are stakeholders.

4.4 Reliability Test

Reliability Test Reliability test was done to evaluate the internal consistency of measures. This test uses Cronbach's Alpha Coefficient from the SPSS. A total number of 57 responses were used during this test. Results obtained from each measure showed that the value of the Cronbach's Alpha varies from 0.843 to 0.897 as shown in the table below. The values are taken to be within the acceptable range since alpha above 0.7 are considered good.

Table 2: Value of variable level Reliability test(N= 57)

Variables	**Number of Items**	**Cronbach's Alpha**
IV1(Project team selection)	6	0.887
IV2(Training and Development)	5	0.897
IV3(Performance appraisal)	6	0.886
IV4(Recognition and Rewards)	5	0.873
DV(Project Performance)	8	0.843

Source: - Survey Result 2026

4.5 Descriptive Analysis

4.5.1 Descriptive analysis of Independent variables

4.5.1.1 Project team member selection

To measure how well an organization's workforce talent alignment helps its operations in executing tasks, the choice and recruitment of the project team members becomes an important aspect. The table below is used to evaluate how the selection practices of the project team members are put into practice at Flintstone Engineering Sc. Performance-based placement, managerial autonomy, and clarity in the selection process become the core of this section.

Table 3: Project team member selection and acquisition value

Project team member selection and acquisition			
	N	Mean	Std. Deviation
Flintstone Engineering S.C. has clear procedures for recruiting and selecting project team members.	57	3.26	1.173
The selection process for project team members is fair and transparent.	57	3.32	1.038
The project managers have the authority to choose suitable personnel for their projects.	57	3.32	1.020
Project team members are selected based on their technical skills and competencies related to the project needs.	57	3.46	1.151
Project managers actively participate in the selection process of their team members.	57	3.42	1.034
The organization provides a better platform for employees to have an equal opportunity for vacant positions on projects.	57	3.35	1.126
Valid N (list wise)	57		

Source: - Survey Result 2026

The results presented in Table 4 indicate a dual approach towards the recruitment process and its specific problems regarding the structural equity dimension. First of all, it is important to note that the process of selection was not rated highly across the board. The key factor in question in this case is related to whether Flintstone Engineering S.C. has well-developed procedures for recruitment and selection of project team members. It should be admitted that this indicator received the lowest average rating (M = 3.26). This rather low score implies that there are certain weaknesses in the way of recruitment and selection procedures being organized.

In combination with the findings based on interviews that revealed informal and fast placement process because of high labor demand in peak periods of construction, it can be concluded that scheduling takes precedence over the regular selection process. The identified tendency corresponds to the results of the study by Belout and Gauvreau (2004) who stated that an unstructured recruitment of teams could lead to ambiguous roles and dissatisfaction at work. On the other hand, the maximum mean score (M = 3.46) was received for the assertion that members of project teams are selected taking into account their technical skills and competencies. It means that there is a high level of concern about the correspondence between employees' competencies and project needs. Therefore, even though the main criterion for choosing employees in the organization is the possession of technical skills, the need to improve the recruitment process still exists.

4.5.1.2 Training and Development

The main idea in this paragraph can be taken as an example of progressive investment on the part of the firm towards their workers in order to reduce the skill gap so that there can be a chance for the development of their ability to meet technical and technological requirements. This is particularly important in the field of engineering.

Table 4: Training and Development value

Training and Development			
	N	Mean	Std. Deviation
The training and development programs offered help project team members acquire skills necessary for project success.	57	3.28	1.176
Training needs are assessed periodically based	57	3.25	1.040

on the current and future demands of projects.			
The organization has a clear training plan aligned with organizational strategy to transform knowledge acquired into practice.	57	3.18	1.104
Training and development practices enhance the quality and competency of the current project staff.	57	3.54	1.070
Project managers and team members are encouraged to attend relevant professional development courses.	57	3.67	1.139
Valid N (list wise)	57		

Source: - Survey Result 2026

The analysis of the findings suggests that training and development processes are viewed positively by the respondents. Nevertheless, the lowest mean score is associated with the item about the organization having a proper training plan that corresponds to the organization's strategy in order to ensure the conversion of gained knowledge into practice (M = 3.18, SD = 1.104). The second lowest mean score relates to the regular assessment of training needs in terms of current and future projects (M = 3.25, SD = 1.040). Thus, it becomes evident that despite the availability of training opportunities, further improvements are needed concerning the planning of the process. Based on Human Capital Theory, the efficiency of the organization increases when training investments correspond to the necessary competencies for project success.

Interviews with the key informants have confirmed the above stated quantitative findings. It has been revealed that the schedules of training are generic and do not coincide with the needs of specific project stages; therefore, employees are provided with inappropriate training concerning their current projects. Therefore, Flintstone Engineering S.C. needs to improve its training needs analysis and come up with a training plan that is in line with the strategic objectives of the projects.

4.5.1.3 Performance Appraisal

This section presents a descriptive analysis of the performance appraisal processes in Flintstone Engineering S.C. The analysis will focus on the perceptions of employees on how effectively appraisal processes are carried out in terms of evaluating performance, giving feedback, and developing employees. This chapter will use means and standard deviations to analyze the degree of agreement among respondents.

Table 5: Performance Appraisal

Performance Appraisal			
	N	Mean	Std. Deviation
Performance appraisal parameters are clearly communicated to project team members in advance.	57	3.42	1.164
Performance appraisal is based on the goals and objectives specific to the project.	57	3.51	1.071
Feedback from performance appraisal is used for development and improvement	57	3.25	0.872
The performance appraisal process is perceived as fair and objective by the project team.	57	3.28	0.881
Employees who perform very well have the opportunity for promotion or transfer to a better project position.	57	3.60	1.100
Performance appraisal results are used as a basis for promoting or demoting project employees.	57	3.72	0.940
Valid N (list wise)	57		

Source: - Survey Result 2026

From the results in Table 6, it can be seen that there is generally a positive attitude towards the performance appraisal system. Nonetheless, the lowest mean rating is found on the item regarding whether feedback on the performance appraisal process is utilized for development and improvement (M = 3.25, SD = 0.872) while the second lowest rating is on the fairness and objectivity of the appraisal process (M = 3.28, SD = 0.881). The results imply that despite the existence of the performance

evaluations, employees may not be getting adequate feedback for development purposes nor do they see the process as entirely objective. According to Social Exchange Theory, employees tend to be committed and perform better when there is perceived fairness in organizational processes.

Additionally, the interviewees mentioned that there were no formal feedback sessions following performance appraisals and, hence, limited scope for identification of strengths and weaknesses by employees. The above information supports the quantitative data because of the relatively low results obtained for developmental feedback and fairness aspects of the appraisal process. Therefore, there is a need to improve the development and feedback elements of the performance appraisal process at Flintstone Engineering S.C.

4.5.1.4 Recognition and Rewards

This part provides the descriptive statistics of the recognition and rewards process at Flintstone Engineering S.C. It considers the way employees recognize the reward process in motivating them and fostering productivity and commitment. The analysis is done using mean and standard deviation.

Table 6: Recognition and Rewards

Recognition and Rewards			
	N	Mean	Std. Deviation
The recognition and reward system at Flintstone Engineering S.C. is perceived as equitable.	57	3.09	1.164
Project team members receive timely recognition for their efforts and contributions to project goals.	57	2.88	1.166
The organization uses both financial (e.g., bonuses, incentives) and non-financial (e.g., praise, certificate) rewards effectively.	57	3.46	0.965
The recognition and reward practices enhance the satisfaction and commitment level of the project staff.	57	3.21	1.065
Project managers consistently recognize high-performing team members.	57	3.25	1.040

Source: - Survey Result 2026

According to the findings in Table 7, there is a positive perception of the recognition and rewards programs conducted in Flintstone Engineering S.C. Nevertheless, the lowest means were recorded on the aspects concerning inadequacy and inconsistency of recognition and rewards mechanisms, implying that some of the staff believes that there is room for improvement in the way contributions

are recognized and rewarded. Social Exchange Theory (Blau, 1964) holds that employees reciprocate positive organizational experiences in the form of increased commitment, motivation, and performance. Therefore, recognition and rewards will motivate the staff to work hard towards project objectives.

The interview respondents showed that the employees who were recognized for their contributions were more committed, responsible, and productive. The same is further substantiated through the regression analysis where it is found that recognition and rewards positively impacted project performance. It is clear from this that any improvement in the area of recognition and reward practices will directly impact the project performance in terms of time, cost, and quality performance. Hence, it is recommended that Flintstone Engineering S.C. should focus on improving its recognition and reward system.

4.5.2 Dependent Variable

This portion highlights the descriptive analysis of the dependent variable in this research work, which is project performance. This part focuses on the extent of project performances with respect to time, cost, and quality parameters. Mean and standard deviation values are used in evaluating performance levels.

Table 7: Project Performance

Project Performance			
	N	Mean	Std. Deviation
Projects are completed within the planned schedule	57	2.67	1.058
Project delays are minimal during execution.	57	2.65	0.973
Project activities are completed according to the approved timeline.	57	2.67	0.951
Projects are completed within the approved budget.	57	2.65	0.855
Cost overruns are effectively controlled.	57	2.89	1.047
Project outputs meet required quality standards.	57	3.60	0.923
Rework and defects are minimal during project execution.	57	3.30	0.906
Project resources are utilized efficiently to control costs.	57	3.88	1.053

Valid N (list wise)	57		

Source: - Survey Result 2026

As regards the project performance, the descriptive statistics reveal that the item “Project delays are minimal during execution” had the lowest mean score (M = 2.65) meaning that there was low agreement amongst the respondents regarding this issue. This indicates that project delays have been a problem in Flintstone Engineering S.C. making project completion difficult in the firm. Based on the AMO Theory, the performance of employees requires that employees possess the right skills, are motivated, and have the opportunity to work in the right work environment. Low mean score may imply that employees lack the needed competency and opportunity to work effectively and hence delay projects.

The above finding is supported by the interviews' findings where the interviewees cited skill shortage, shortage of skilled workers, too much workload for the experienced staff, lack of training, and poor human resource planning as among the main causes of project implementation delays. It is clear from the above finding that there is strong relationship between project delay and workforce capability and planning issues, not only scheduling issues. It is therefore important for Flintstone Engineering S.C. to ensure that it improves employee skills.

4.6 Inferential Statistics

4.6.1 Correlation Analysis

Table 8: Correlation analysis result

Correlations						
		Team member selection	Training and development	Performance appraisal	Recognition and rewards	Project performance
IV1(project team member selction)	Pearson Correlation	1	.671**	.651**	.520**	.518**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	57	57	57	57	57
IV2(Training and Development)	Pearson Correlation	.671**	1	.815**	.591**	.474**
	Sig. (2-tailed)	.000		.000	.000	.000

	N	57	57	57	57	57
IV3(Performance appraisal)	Pearson Correlation	.651**	.815**	1	.670**	.534**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	57	57	57	57	57
IV4(Recognition and Reward)	Pearson Correlation	.520**	.591**	.670**	1	.675**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	57	57	57	57	57
DV(Project performance)	Pearson Correlation	.518**	.474**	.534**	.675**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	57	57	57	57	57
**. Correlation is significant at the 0.01 level (2-tailed).						

Results from the correlation analysis reveal that there exist statistically significant and positive relationships between human resource practices

Project team member selection was found to have a strong positive and statistically significant relationship with project performance ($r=0.518$, $p<0.01$). This suggests that the more effective the organization's process of selecting team members, the better its performance on projects. In addition, project team member selection has a strong relationship with training and development ($r=0.671$, $p<0.01$). This implies that the more an organization focuses on training and developing its staff, the more likely it is to be selective when choosing project team members. Other results include: ($r=0.651$, $p<0.01$), ($r=0.520$, $p<0.01$), performance appraisal and recognition and rewards, respectively.

Training and development was found to have a moderately positive and statistically significant relationship with project performance ($r=0.474$, $p<0.01$). This indicates that training and developing employees positively affects project performance. On the other hand, training and development has the strongest relationship with performance appraisal ($r=0.815$, $p<0.01$). This implies that the better the organizations process of training and developing its employees, the stronger its performance appraisal process. Other results include: ($r=0.671$, $p<0.01$), ($r=0.591$, $p<0.01$), project team member selection and recognition and rewards, respectively.

Performance appraisal: There is a moderate positive and statistically significant association between performance appraisal and project performance ($r = 0.534$, $p < 0.01$). This shows that effective performance appraisal leads to good project performance. On the other hand, there is the strongest association between performance appraisal and training and development ($r = 0.815$, $p < 0.01$). This indicates that if there is an efficient performance appraisal system within an organization, it will have a sound training and development program. Other associations include ($r = 0.651$, $p < 0.01$) and ($r = 0.670$, $p < 0.01$) for project team member selection and recognition and rewards, respectively.

Recognition and Reward System has a very positive and statistically significant relation with Project Performance ($r = 0.670$, $p < 0.01$), showing that recognition and reward system has much impact on project performance. In addition, Recognition and Reward System has highest relation with performance appraisal ($r = 0.670$, $p < 0.01$). It shows that if there are strong performance appraisals within an organization, the reward and recognition systems should be strong as well. Other relationships are ($r = 0.520$, $p < 0.01$) and ($r = 0.591$, $p < 0.01$) for Project Team Member Selection and Training and Development respectively.

4.6.2 Multi collinearity test

A multicolinearity test is used to identify if there is a high correlation among independent variables within the multiple regression model. The process involves the examination of tolerance values and variance inflation factor (VIF). Cochran, (1997) argues that the presence of multi-colinearity can be easily determined by simply looking at the variance inflation factor (VIF) of each explanatory variable, such that if VIF is above 10, it indicates that there is an interdependent relationship between the independent variables but for those below 10, it indicates that there is no interdependency among the variables. In simple terms, multi-colinearity is said to happen when independent variables within the regression model are more correlated to one another than the dependent variable. The tolerance values and variation inflation factor (VIF) for each dependent variable determine multi-colinearity.

Table 9: Multi Collinearity test

Coefficients[a]			
Model		**Collinearity Statistics**	
		Tolerance	**VIF**
1	(Constant)		

	IV1 (Project Team Member Selection)	0.510	1.961
	IV2 (Training and Development)	0.301	3.328
	IV3 (Performance Appraisal)	0.272	3.672
	IV4 (Recognition and Reward Systems)	0.537	1.861

Source: - Survey Result 2026

As indicated in the table above, the Multicollinearity test for this study revealed that the values of tolerance were within the range 0.272 to 0.537, meaning that the results were not less than 0.10 for all independent variables. The variation inflation factor for all the independent variables was within the range 1.861 to 3.674, which means that they are not more than 10. The results indicate that there was no multicollinearity problem in this case.

4.6.2 Normality test

4.6.2.1 Histogram

The histogram in normality test is a graph that shows the distribution of the data it used to check whether the data follows a normal (bell-shaped) distribution. In this study the results showed a bell-shaped and approximately symmetrical distribution, indicating that the data are normally distributed.

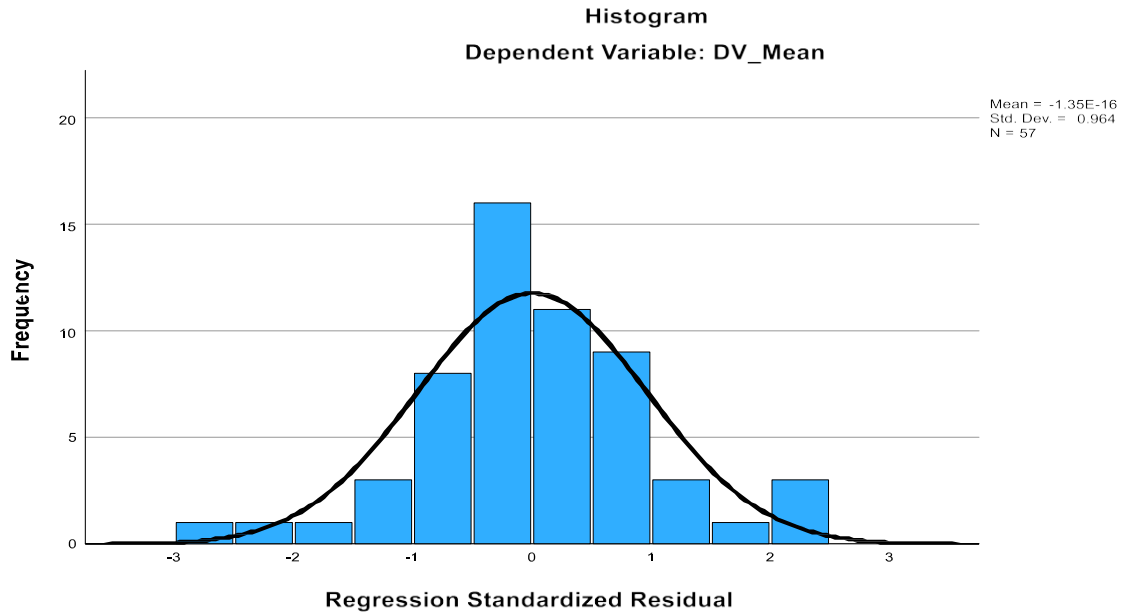


Figure 2: Normality test Histogram

Source: - Survey Result 2026

4.6.2.2 Normal Q-Q Plot

It is shown in the following figure that the normality test with the help of Normal Q-Q plot reveals that the data points lie close to the diagonal reference line, which means that the data follow a normal distribution.

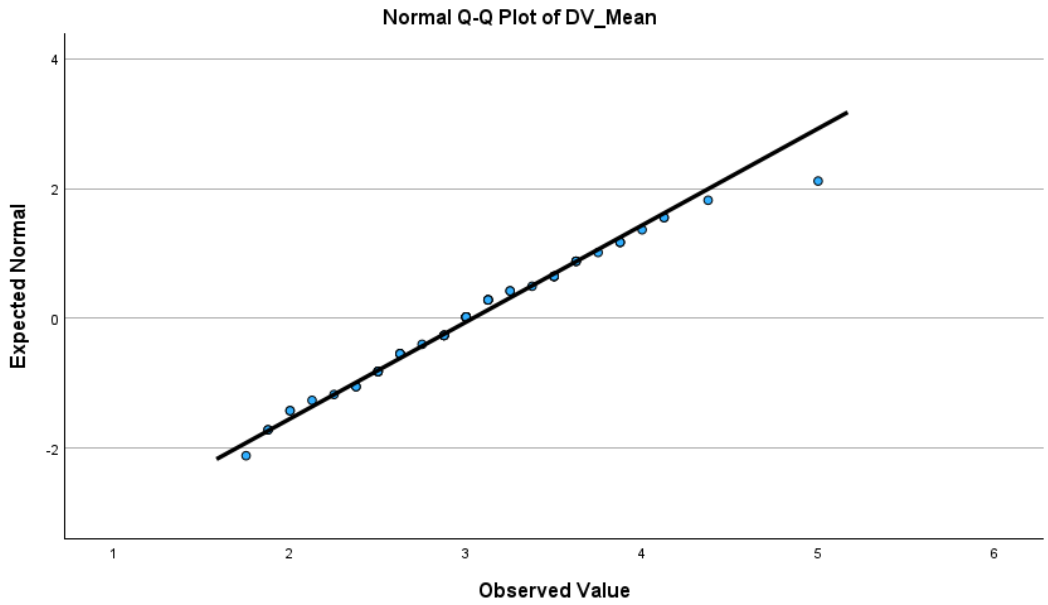


Figure 3 : Normality test Normal Q-Q Plot

Source: - Survey Result 2026

4.6.2 Homoscedasticity test

Homoscedasticity, as defined by (Porter, 2009)is an essential assumption in regression analysis where the variance of the error term is constant throughout all values of the independent variable. This means that the variability of the residuals should remain stable and should not systematically increase or decrease as the value of prediction increases. When this assumption is met, it implies that the model will provide a reliable estimate of the standard errors that are vital in conducting tests of hypotheses and computing confidence intervals. It can be tested graphically through the use of a scatter plot of standardized residuals versus predicted values, where a non-patterned plot suggests the validity of the assumption while a patterned plot suggests the violation of the homoscedasticity assumption.

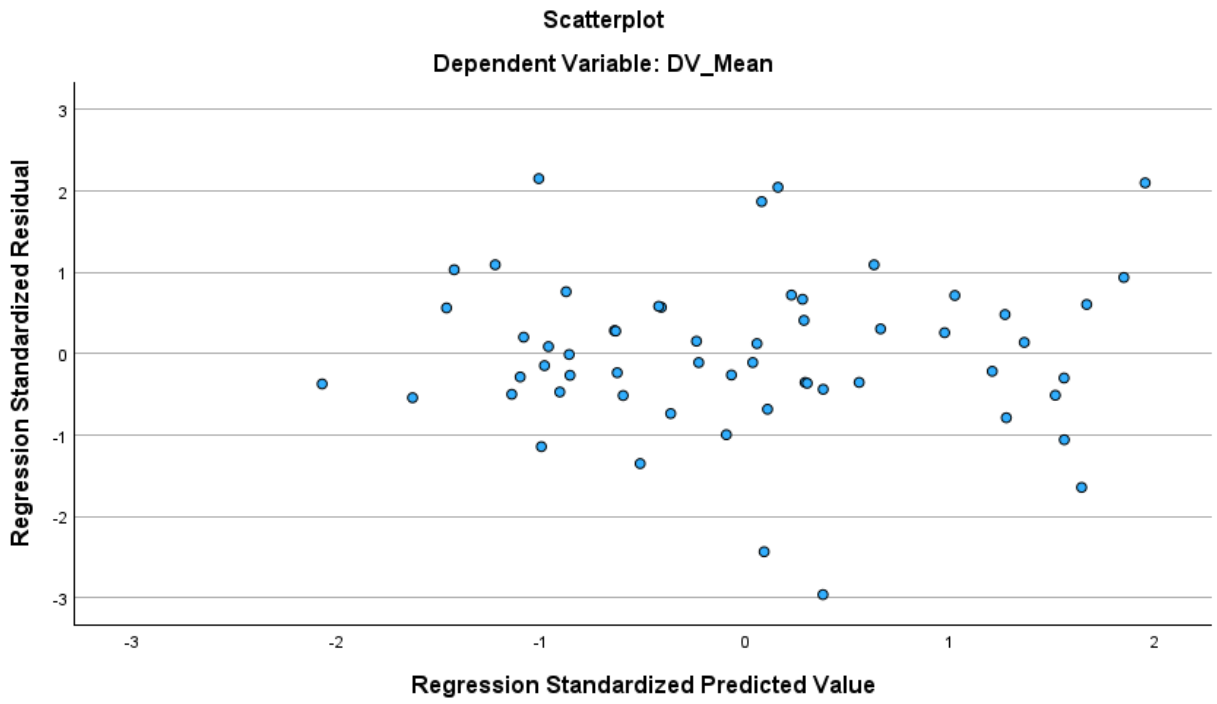


Figure 4: Homoscedasticity test

Source: - Survey Result 2026

4.6.2 Regression Analysis

(Geoffrey R. Marczyk, 2005)Regression analysis is one of the methods of statistical analysis through which we can understand the connection between two or more variables under consideration. The technique adopted for regression analysis assists in comprehending which variables are crucial, which ones should be left out, and how they are interrelated. Regression is the technique that enables prediction of the value of one variable when the value of another variable is known. Like correlation, regression analysis studies the relationship between variables. However, unlike correlation, the focus of regression is mainly on prediction.

Estimated Regression Model

Y=1.082+0.177(IV1) - 0.039(IV1) + 0.054 (IV3) + 0.413(IV4)

Where: -

Y = Project performance

IV1 = Project team selection

IV2 = Training and Development

IV3 = Performance Appraisal

IV4 = Recognition and Reward

Constant = 1.082

If all independent variables are zero, the project performance will be 1.082, and it acts as the base level of performance.

Project team selection For every 1-unit increase in project team selection, there will be a 0.177 unit increase in the project performance.

Training and development If training and development increases in 1-unit, the project performance reduces by 0.039 unit. This could be because of ineffective training and development strategies and lack of alignment between training and project requirements.

Performance appraisal When performance appraisal increases in 1-unit, the project performance improves by 0.054 units

Recognition and reward For every 1-unit increase in recognition & reward systems, the project performance increases by 0.413 units.

4.6.2.1 Model Summary

Model summary is an important part of multiple regression analysis, which consists of various statistical values showing how well the independent variables predict the dependent variable. This includes the use of correlation coefficient, (R), the coefficient of determination, (R^2) and adjusted (R^2). All these statistics evaluate how strong the predictive capacity of the regression model. R shows the overall correlation between the predictors and the response variable while R^2 shows the percentage of variance in the dependent variable explained by the predictor variables. On its part, adjusted R^2 takes into account the number of predictors included in the regression model.

Table 10: Model summary result

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.704[a]	0.495	0.456	0.49509
a. Predictors: (Constant), project team member selection, Training and Development, Performance appraisal, Recognition and reward				
b. Dependent variable:- Project performance				

Source: - Survey Result 2026

From the model summary results, it can be seen that there exists a strong positive correlation between the independent variables and project performance (R= 0.704). The R Square value, which stands at 0.495, means that about 49.5% of the variation in project performance can be explained using project team members' selection, training and development, performance appraisals, and rewards. An Adjusted R Square value of 0.456 indicates that this model is a good one since it explains the model with regard to the number of predictors.

4.6.2.2 ANOVA[a]

According to Field (2013), analysis of variance (ANOVA) is used in regression analysis in determining the general significance of the model by checking if the group of predictor variables has any statistically significant effect on the dependent variable. If ANOVA proves to be significant ($p<0.05$), then the model fits the data significantly better than the null model.

Table 11: ANOVA results

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	12.503	4	3.126	12.752	<.001[b]
	Residual	12.746	52	0.245		
	Total	25.249	56			
a. Dependent Variable:- Project performance						
b. Predictors: (Constant), project team member selection, Training and Development, Performance appraisal, Recognition and reward						

Source: - Survey Result 2026

The significance from the ANOVA table shows that the whole regression model is statistically significant (P<0.001), which implies that the four independent variables (selection of the project team members, training and development, performance appraisals, and recognition and rewards) significantly influence the dependent variable (project performance). The regression model is therefore applicable in explaining variations in the project performance.

4.6.2.3 Analysis of Coefficients

The coefficient table in multiple regression analysis gives a lot of insight into how each of the independent variables relates to the others. It gives the standardized and unstandardized coefficients, which give the direction and magnitude of the effect of each independent variable on the dependent variable (field,2013). The standardized beta (ß) values help determine the comparative magnitude of influence of the independent variables, while the significance (p-value) helps determine the statistical relevance of the variables. Values that are less than 0.05 mean the variable significantly influences the model, while those greater than 0.05 imply that they do not have a significant effect.

Table 12: Regression coefficient results

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.082	0.310		3.492	0.001
	IV1_Mean	0.177	0.106	0.230	1.666	0.102
	IV2_Mean	-0.039	0.130	-0.055	-0.305	0.762
	IV3_Mean	0.054	0.157	0.065	0.342	0.734
	IV4_Mean	0.413	0.102	0.545	4.051	0.000
a. Dependent Variable: project performance						

Source: - Survey Result 2026

According to the findings from the coefficients in regression, the results show that recognition and reward has a strong positive effect on project performance (ß = 0.545, p < 0.001). This is an indication that improvements made in recognition and reward can bring about improvements in project performance. On the other hand, project team member selection (ß = 0.230, p = 0.102), training and

development (ß = -0.055, p = 0.762) and performance appraisal (ß= 0.065, p = 0.734) turned out to be statistically insignificant. Even though the two latter HRM practices have positive correlations, their effects are weak.

In other hand there is a negative correlation for Training and Development (IV2), this means that there is an inverse relationship with the dependent variable, indicating that an increase in training and development activities is associated with a decline in project performance by the coefficient value, controlling for other variables. This goes against the prediction of Human Capital Theory, which claims that investing in employee training will result in higher levels of knowledge, skills, and competence, contributing to improved organizational results. This negative coefficient could mean that the training conducted at Flintstone Engineering S.C. does not meet the needs of the projects, or that training could take up time and effort without leading to better performance immediately.

This implies that training and development are not sufficient enough to improve project performance if they do not relate to projects and if they do not take place in an appropriate manner. There may be some problems like lack of proper training design, mismatch between training and skills required for work, or even delays in completing projects due to training sessions.

Generally, the findings point out that among the various HRM practices, recognition and reward is the only one with a significant effect on project performance.

4.7 Hypothesis test

Table 13: The hypothesis test

Hypothesis test			
	Variable	**Result**	**Decision**
H1	Overall Project human resource practices	F= 12.752 and Sig(0.001)	Supported
H2	Project team member selection	beta(β) =0.23 and Sig((p) =0.102	Not supported
H3	Training and development	Beta(β) = -0.055 and Sig(0.762)	Not supported
H4	Performance Appraisal	Beta(β)=0.065 and Sig(p) =0.734	Not supported
H5	Recognition and rewards	Beta (β) =0.545 and Sig(p) = 0.000	supported

Source: - Survey Result 2026

Hypothesis testing was carried out at the 0.05 significance level. The results from this study show that recognition and rewards had a P value of <0.000, which proved our hypothesis. The other three hypotheses were disproved, while the human resource management practices of the entire project had a positive effect on performance. Out of the five hypotheses, two were proved to be true.

4.8 Discussion of the result with previous study

This part provides a discussion of the study findings in comparison with previous empirical studies. The outcomes derived from the analysis are contrasted with previous findings in an attempt to determine any similarities or disparities. The discussion will be based on the impacts of the practices of human resource management of projects: - project team member selection, training and development, performance appraisal and recognition and rewards on the project performance of Flintstone engineering S.C.

Project team member selection: - the outcomes of this study in connection with project team member selection had no notable effect on the project performance (ß=0.230, p =0.102). This outcome is contrary to the findings of Ghattas et al (2022) and Miraf Lgegesse (2024), who identified the selection of project team members as one of the essential elements of successful projects. This disparity could be accounted for by factors such as skills mismatch and limited availability of qualified individuals.
Training and development: - From the result above, it was discovered that training and development have no significant effect on project performance (ß= -0.055, p =0.762). This finding differs from that of Christian O.Ifediora and Ghattas et al (2022). They both claimed that training and development have a positive impact on project performance. This could be because there is no relevant and practical training program in the organization.

Performance appraisal: - According to the results of the study above, performance appraisal has no significant effect on project performance (ß= 0.065, p =0.734). This is a divergence from earlier researchers like Fekadu Molla (2022). It emphasizes the significance of performance evaluation systems. This could be attributed to the fact that there is no effective appraisal system in the company.
Recognition and Reward: - the foundation of this study on recognition and rewards has a considerable positive impact on the performance of the project (ß= 0.545, p < 0.001). The findings of this research are similar to the results of Mavia Iqbal and Rabia Inayat (2020), Miraf Lgegesse (2024), and Fekadu Molla (2022), as they found that reward systems help increase employees' motivation and positively impact the results. This similarity might be attributed to the fact that employees are expected to produce better results if their performance is recognized and rewarded.

Overall, the results obtained through this research are partially in line with those identified by previous researchers. In particular, while recognition and rewards confirm the previous research, the other three independent variables do not show any consistency.

CHAPTER FIVE

SUMMARY, CONCLUSION, RECOMMENDATION

This chapter presents the summary of the major findings, conclusions, and recommendations of the study. The conclusions are drawn based on the results obtained from the descriptive, correlation, and regression analyses as well as the qualitative findings. The chapter also provides practical recommendations for Flintstone Engineering S.C. and other project-based organizations and suggests directions for future research in the area of project human resource management and project performance.

5.1 Summary of major findings

- Descriptive Analysis of Project Team Members Selection and Acquisition The mean value ranges between 3.26 to 3.46 that suggests a moderate level of consensus among the respondents. Standard deviation ranges from 1.020 to 1.173 indicating a moderate to relatively high level of variation in the responses received from the participants.
- Descriptive Analysis of Training and Development the mean value ranges between 3.18 to 3.67 showing that there exists a moderate to relatively high level of agreement among the

respondents. Standard deviation ranges from 1.040 to 1.176 indicating moderate variation in responses.

- Descriptive Analysis of Performance Appraisal The mean values range from 3.25 to 3.72 showing a moderate to relatively high level of agreement among the respondents. Standard deviation ranges from 0.872 to 1.164 indicating a moderate level of variability.
- Descriptive Analysis of Recognition and Rewards The mean value ranges from 2.88 to 3.46 which implies a low to moderate level of agreement among the respondents. Standard deviation values range from 0.965 to 1.166 indicating a moderate level of variability while the perceptions of the respondents regarding recognition and rewards are not entirely alike.
- Descriptive Analysis result of Project Performance: The mean values range from 2.65 to 3.88 indicate moderate performance level. The standard deviation values range from 0.855 to 1.058 indicate a moderate level of variety.
- Multi Collinearity test for this study: The results indicated that tolerance values range from 0.272 to 0.537 were above 0.10 for each independent variable and variation inflation factor (VIF) for each independent variable ranged from 1.861 to 3.674 were below 10. Therefore, the findings confirm that there is no multi-collinearity problem.
- Regression Analysis result of Model Summary: The model summery results indicate that there is a strong positive relationship between the independent variables and project performance (R= 0.704). The R square value of 0.495 indicates that approximately 49.5% of variation in project performance.
- Regression Analysis result of ANOVAa: The results indicate that the overall regression model is statistically significant (P<0.001). This suggests that the independent variables jointly have a significant effect on project performance.
- Regression Analysis Result Coefficients: Recognition and Reward (ß= 0.545, p< 0.001) indicates a positive influence of the variable on project performance. Thus, an improvement in the recognition and reward system will yield positive results for project performance. On the other hand,
- Regression Analysis Result Coefficients Project Team Selection (ß=0.230, p=0.102) is statistically insignificant.
- Regression Analysis Result Coefficients Training and Development (ß=-0.055, p=0.762) is statistically insignificant.

- Regression Analysis Result Coefficients Performance Appraisal (ß=0.065, p=0.734) is statistically insignificant. Even though some of the above-mentioned variables indicate positive correlations with project performance, they are not statistically significant.

5.2 Conclusion of the study

This study assessed the influence of project human resource management practices on the project performance of Flintstone Engineering S.C. This study had five objectives: to assess the existing project human resource management practices and to evaluate the impact of project team selection, training and development, performance appraisal, and recognition and reward on project performance. The results indicated that the implementation of project human resource management practices in the organization is at moderate level, hence, while some HRM practices exist in the organization, their implementation has some deficiencies that impact on project performance.

As for the specific HRM practices, the results indicated that both project team selection and performance appraisal had positive coefficients, therefore, they have a positive impact on project performance, but their impacts were not statistically significant. The results obtained indicate a negative correlation between training and development, implying that the existing training system does not seem to align well with project needs. On the other hand, a positive and significant correlation is found between recognition and reward, thereby proving that motivation and recognition of employees can help enhance project performance.

From the descriptive and qualitative results obtained, it is clear that delays in projects are still common, mainly owing to the lack of skills, heavy workload, lack of proper training, and poor human resource planning. From the analysis above, the conclusion drawn is that even though project human resource management practices are vital in enhancing project performance, there is need to emphasize their effectiveness and alignment.

5.3 Recommendations of the Study

5.3.1 Recommendation for the company

- It was identified that the current implementation of project human resource management practices in Flintstone Engineering S.C. has a moderate level of implementation. Hence, Flintstone Engineering S.C. needs to increase the effectiveness of the overall human resource

management process through increased integration of selection, training and development, performance appraisal and recognition processes.

- Because project team selection practices have made a positive contribution to the performance of projects, the company needs to improve selection practices to include technical proficiency, skills required in the projects, and role fitness. Increased participation of project managers in the team selection process should be encouraged.
- Based on the results, it is evident that training and development practices have not contributed positively to project performance as anticipated. Hence, training and development practices need to be revised by carrying out training needs assessments regularly and ensuring that the training is done according to project requirements.
- As the performance appraisal practices were found to have a significant impact on project performance, the organization needs to enhance its appraisal practices in terms of being fair, objective and giving continuous feedback. The results of appraisals need to be considered not only while making decisions regarding promotions but also for the development of employees.
- Since recognition and rewards had the highest level of positive impact on project performance, Flintstone Engineering S.C. needs to enhance its reward practices in terms of being clear, timely and based on the contribution of employees.

5.3.2 Recommendations for Policy makers

- The regulatory bodies in construction and engineering need to provide guidelines on continuous professional development due to the lack of skills in the sector.
- Institutions of government should support collaboration between the engineering firms and training institutions to increase the competency of their staff members.
- The labor and employment policymakers need to facilitate standard performance management systems for the project-oriented firms.

5.4 Limitation of the study

The study is limited and has several aspects which need to be considered ahead of time.

First, this study is limited to one organization, and hence does not generalize the results to other organizations in the real estate or construction sector, and

Second, the study has a small sample size since the research was limited to one organization.

This study uses self-administered data or questionnaires, and hence it has the potential to bring about response bias since the respondents may respond in socially desirable ways.

Thirdly, the study limited its scope to some human resource management practices for the projects, and ignored other variables which may affect project performance.

5.5 Recommendations for Further Studies

The current study considered the impact of project team selection, training and development, performance evaluation, and recognition and rewards on the performance of projects in Flintstone Engineering S.C. It is recommended that future researchers extend this study to include other dimensions of project human resource management like employee engagement, leadership style, communication, and conflict resolution in order to have more insights regarding the factors affecting the performance of projects.

As this study only considered one engineering company, further studies should be done using the comparative method in order to compare various construction and engineering companies and increase the generalizability of results. It is also recommended that longitudinal designs be used in further studies in order to consider the impact of project human resource management over time.

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APPENDIX 1

ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

Department of project management

Questionnaires

Research Title: - An Analysis of project Human Resource Management Practices and Their Impact on Project Performance in Flintstone engineering S. C''

Dear Respondents,

I am Nigist Belete, a postgraduate student of **Addis Ababa University College of Business and Economics, School of Commerce, Department of Project Management**. I am conducting a study to assess the effect of project human resource management practices on Project Performance in the case of Flintstone Engineering S.C.

You are kindly requested to respond to the questions which describe a specific situation. You are to decide the extent to which you agree that the statement is typical of your judgment. To do so, tick one of the descriptors below the statement.

The research is anonymous; you do not have to disclose your personal details. The information you provide will be used for purely academic purposes, and your cooperation will be kept confidential. The

survey will require 15 minutes of your golden time, and I would like to thank you in advance for offering to participate in this survey.

If you have any question, please do not hesitate to contact me at the below address:

Email:- nigistbelete1216@gmail.com

Part 1 Demographic information

Please tick (✔) in the boxes provided to indicate your answer.

1. Gender: Male □ Female □
2. Age (in years): 20-30 □ 31-40 □ 41-50 □ Above 50 □
3. Educational Status: Diploma □ Degree □ Masters □ Ph.D. □
4. Work Experience in Flintstone Engineering S.C. (in years): 1-5 □ 6-10 □11-15 □Above 15 □
5. Position/Job Title: (Please Specify) _____

Part 2 Independent variables

A. Project team member selection

Table 14: Project team member selection

S.N.	Questions	1	2	3	4	5
A1	Flintstone Engineering S.C. has clear procedures for recruiting and selecting project team members.					
A2	The selection process for project team members is fair and transparent.					
A3	The project managers have the authority to choose suitable personnel for their projects.					
A4	Project team members are selected based on their technical skills and competencies related to the project needs.					

A5	Project managers actively participate in the selection process of their team members.					
A6	The organization provides a better platform for employees to have an equal opportunity for vacant positions on projects.					

B. Training and Development

Table 15: Training and Development

S.N.	Questions	1	2	3	4	5
B1	The training and development programs offered help project team members acquire skills necessary for project success.					
B2	Training needs are assessed periodically based on the current and future demands of projects.					
B3	The organization has a clear training plan aligned with organizational strategy to transform knowledge acquired into practice.					
B4	Training and development practices enhance the quality and competency of the current project staff.					
B5	Project managers and team members are encouraged to attend relevant professional development courses.					

B. Performance Appraisal

Table 16: Performance Appraisal

S.N.	Question	1	2	3	4	5
C1	Performance appraisal parameters are clearly communicated to project team members in advance.					

C2	Performance appraisal is based on the goals and objectives specific to the project.					
C3	Feedback from performance appraisal is used for development and improvement.					
C4	The performance appraisal process is perceived as fair and objective by the project team.					
C5	Employees who perform very well have the opportunity for promotion or transfer to a better project position.					
C6	Performance appraisal results are used as a basis for promoting or demoting project employees.					

C. Recognition and Reward Systems

Table 17: Recognition and Reward Systems

S.N.	Question	1	2	3	4	5
D1	The recognition and reward system at Flintstone Engineering S.C. is perceived as equitable.					
D2	Project team members receive timely recognition for their efforts and contributions to project goals.					
D3	The organization uses both financial (e.g., bonuses, incentives) and non-financial (e.g., praise, certificate) rewards effectively.					
D4	The recognition and reward practices enhance the satisfaction and commitment level of the project staff.					
D5	Project managers consistently recognize high-performing team members.					

PART 3 Dependent variables

Project Performance

Table 18: Project Performance

	Questions	**1**	**2**	**3**	**4**	**5**
Time Performance	Projects are completed within the planned schedule					
	Project delays are minimal during execution					
	Project activities are completed according to the approved timeline					
Cost Performance	Projects are completed within the approved budget					
	Cost overruns are effectively controlled					
Quality Performance	Project outputs meet required quality standards					
	Rework and defects are minimal during project execution					
	Project resources are utilized efficiently to control costs.					

APPENDIX 2

ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

Department of project management

Interview questions

Research Title: - An Analysis of project Human Resource Management Practices and Their Impact on Project Performance in Flintstone engineering S. C''

Dear Respondents,

Interview Questions

1. What is your role and level of involvement in the project activities?
2. How long have you been involved in project-based work within the organization?
3. How would you describe the current practices used for selecting project team members?
4. What types of training and development opportunities are provided to project team members, and how relevant are they to project tasks?
5. How is the performance of project team members evaluated during project implementation?
6. What types of recognition or rewards are provided for good project performance?
7. How do project human resource management practices affect project completion in terms of time, cost, and quality?
8. How would you assess the overall performance and success of projects implemented by the organization?
9. What major challenges related to human resource management have you observed during project implementation?
10. In your opinion, how important is effective project human resource management for improving project performance in the construction industry?