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ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DEPARTMENT OF PROJECT MANAGEMENT

EFFECTS OF PROJECT MANAGEMENT PROCESSES IN THE EFFECTIVENESS OF ERP IMPLEMENTATION; THE CASE OF MINAYE GROUP

By: Kalkidan Beyene Wondmagegn

January, 2025

Addis Abeba, Ethiopia

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EFFECTS OF PROJECT MANAGEMENT PROCESSES IN THE EFFECTIVENESS OF ENTERPRISE RESOURCE PLANNING IMPLEMENTATION; THE CASE OF MINAYE GROUP

By: Kalkidan Beyene Wondmagegn
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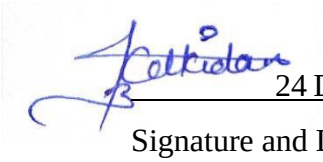
Addis Abeba, Ethiopia

DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Dr. Maru Shete (Assistant Professor). All sources of materials used in this thesis have been duly acknowledged. I further confirm that this thesis has not been submitted, in part or in full, to any other institution of higher learning for the purpose of earning any degree.



Kalkidan Beyene Wondmagegn — 24 Dec 2024

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ENDORSEMENT

I fully endorse this thesis has been submitted to St. Mary's University, School of Graduate Studies for examination and for the purpose of earning Masters Degree with my approval as a university advisor.

Maru Shete (PhD) _____  24/12/24

Advisor's Name Date and Signature

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SCHOOL OF GRADUATE STUDIES
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ABSTRACT

This thesis examines the effects of project management processes on the effectiveness of Enterprise Resource Planning (ERP) implementation within the Minaye Group, a manufacturing and commercial conglomerate in Ethiopia. Despite the growing adoption of ERP systems, high failure rates and challenges persist, often linked to inadequate project management practices. This study aims to evaluate the effects of project management processes—initiating, planning, executing, monitoring and controlling, and closing—and the effectiveness of ERP implementation. Using a mixed-methods research approach that combines qualitative and quantitative techniques, the study employs a descriptive methodology to systematically document current practices and an explanatory methodology to explore causal relationships between project management processes and ERP outcomes. Through a comprehensive literature review, empirical analysis, and data collection via surveys, and document analysis, the research identifies success factors and highlights best practices in project management that can enhance ERP outcomes. The findings underscore the importance of structured project management in achieving successful ERP implementations, providing valuable insights for Minaye Group and other organizations embarking on similar projects. Ultimately, this study contributes to the understanding of project management's role in ERP effectiveness, addressing a significant gap in existing literature, particularly in the Ethiopian context.

Key words:

ERP, Project Management processes- Project initiating, planning, executing, monitoring and controlling, and closing

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the study

Organizations are increasingly connecting globally through advanced information systems, enabling real-time monitoring of business activities and more accurate, timely information than traditional monthly reports. In today's world, effective management relies heavily on information, which is essential for decision-making and resource development. Enterprise Resource Planning (ERP) systems play a key role in this by improving planning, decision-making, and outcomes. However, ERP implementation is complex and comes with challenges. This paper explores how project management practices influence the success or failure of ERP projects, highlighting their importance in achieving better results.

1.1.1. Project Management

PMI defines a project as *"a temporary endeavor undertaken to produce a unique product, service, or result"* (PMBOK, 2008). This means that a project is done only one time. If it is repetitive, it is not a project. A project should have definite starting and ending point (time), a budget (cost), clearly defined scope – or magnitude of work to be done, and a specific performance requirement that must be met. (J. Heagney, 2012)

The PMBOK guide definition of project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. Project management accomplished through the application and integration of the 42 logically grouped project management process comprising the 5 processes groups; initiating, planning, executing, monitoring and controlling and closing (PMBOK, 2008).

1.1.2. Enterprise Resource Planning (ERP)

Enterprise Resource Planning (ERP) systems are integrated software solutions designed to streamline and optimize the management of key business resources, including inventory, materials, human resources, finance, and customer information (Koch, 2006). By consolidating data into a centralized database, ERP systems enable organizations to enhance operational efficiency, improve decision-making, and gain a competitive edge. However, despite their potential benefits, the implementation of

ERP systems is often fraught with challenges, including high failure rates, cost overruns, and delays. These challenges are frequently attributed to inadequate project management practices, which play a critical role in ensuring the successful deployment and effectiveness of ERP systems.

Project management processes—initiating, planning, executing, monitoring and controlling, and closing—are essential for aligning ERP implementation with organizational goals, managing resources effectively, and mitigating risks. In the context of manufacturing and commercial industries, where operational complexity and resource coordination are paramount, the role of project management becomes even more critical. The Minaye Group, a prominent manufacturing and commercial conglomerate in Ethiopia, has recently embarked on ERP implementation across its operations, including its cartoon packaging and fresh-cut rose export businesses. This initiative presents a unique opportunity to explore the relationship between project management processes and ERP effectiveness, particularly in a developing economy like Ethiopia, where such studies are limited.

This study focuses on examining how project management processes influence the effectiveness of ERP implementation within the Minaye Group. By addressing this gap, the research aims to provide actionable insights into the best practices and success factors that can enhance ERP outcomes, not only for Minaye but also for other organizations facing similar challenges. The findings will contribute to the broader understanding of the interplay between project management and ERP success, offering valuable lessons for both academia and industry.

1.2. Background of the Organization

Minaye Group is a group of companies established in 1990, engaged in the supply of office and household furniture, manufacturing of carton boxes, manufacturing of Decorative paints as well as car refinishing in collaboration with world famous brand Sikkens of Akzo Nobel, and growing & exporting of cut flowers (Roses). Now Minaye Group has over 1,300 human capitals and is significantly contributing to the country's socio-economic development. It has a win-win relationship with all its stakeholders. Minaye Group puts emphasis on exploring potentials and ensuring continuous growth.

The first business unit is Min-Addis Paints established in 1986. As the paint industry began to rise early in our country, Min-Addis saw this opportunity and start to import quality raw materials from a global leading company and then manufacture world class automotive refinishing.

The Second business unit is established in 2003 named Deluxe Furniture. The furniture business

kicked in earlier than the others being an exclusive supplier to different types of furniture. The early start had some bumps but managed to a stable base and now it is the top leading supplier and manufacturer in Ethiopia.

The Third Business unit is Minaye Flowers plc established in 2004. By taking up high altitude places in Ethiopia, Minaye Flowers begin growing and exporting premium quality range of fresh cut flowers (Roses).

The business unit established in 2006 is Minaye Packaging plc which is solely based on manufacturing, is found to tackle the high importation of packaging materials as the production of goods is increasing every year in Ethiopia.

Minaye Group planned a reengineering project which was undertaken from 2022 up to today and that was mainly designed to introduce world class business processes including the implementation of "Enterprise Resource Planning" system specifically in Minaye packaging plc and Minaye flowers plc. In the meantime, the company had been working with different international companies in the form of outsourcing of some activities, benchmarking and consultation services. Minaye is on the process of implementing ERP system in its two operating companies located one in Addis Abeba and one in both Debrezeit and Awash Melka Kuntre. The aim of this study is to assess the project management processes while implementing ERP.

The Project team was formed in July 2023 specifically for Minaye Corporation. Initially, the operational department handled the company's projects in their entirety, but these projects were relatively small and low-cost. However, the establishment of the project department aimed to take on the projects of the Minaye Group, which carry significant implications for success or failure. Presently, the ERP project falls under the responsibility of this department.

1.3. Statement of the problem

Enterprise Resource Planning (ERP) systems have become essential for modern businesses, offering real-time capabilities and seamless communication to enhance operational efficiency. However, ERP implementations are complex, time-consuming, and costly, with high failure rates often attributed to inadequate project management practices (Davenport, 2000; Ibrahim, 2010). Successful ERP implementation requires meticulous planning, execution, monitoring, and control—core components of project management processes. Despite their critical role, the relationship between project management processes and ERP implementation success remains underexplored, particularly in the

Ethiopian context.

While previous studies in Ethiopia have focused on identifying success factors for ERP implementation (e.g., Abiot & Gomez, 2012; Sintayehu, 2014; Derese, 2013; Saron, 2017; Daniel, 2018; Tewodros, 2019; Betelihem, 2019; Henok, 2021; Hermela, 2021), none have specifically examined the influence of project management processes on ERP effectiveness. This gap is significant, as effective project management is crucial for aligning ERP implementation with organizational goals, managing resources, and mitigating risks.

The Minaye Group, a prominent Ethiopian conglomerate operating in cartoon manufacturing, flower production, and furniture manufacturing, has faced challenges in its ERP implementation journey. Initial failures in the cartoon manufacturing sector and ongoing difficulties in the flower production sector highlight the need for a structured approach to project management. Despite transitioning from one ERP system to another (e.g., MarakiERP to Odoo ERP), the company continues to struggle with assessing the impact of ERP on business performance. These challenges underscore the importance of understanding how project management processes influence ERP implementation success.

This study addresses this critical gap by evaluating the effects of project management processes on the effectiveness of ERP implementation within the Minaye Group. By focusing on the initiating, planning, executing, monitoring, and closing phases of project management, the research aims to identify best practices and provide actionable insights for improving ERP outcomes. The findings will not only benefit Minaye but also contribute to the broader understanding of ERP implementation in resource-constrained environments like Ethiopia, where such studies are scarce.

1.4. Research objective

1.4.1. General objective

The general objective of the research is to evaluate the effects of project management processes on the effectiveness of ERP implementation by assessing the practices associated with the five project management processes in Minaye Group.

1.4.2. Specific Objectives and Hypotheses

The specific objectives of the study are;

i. To measure the degree of ERP implementation project management processes.

H1: There is a significant positive relationship between project initiation and ERP implementation effectiveness.

ii. To examine the effect of Project Initiation on ERP implementation in Minaye Group.

H2: There is a significant positive relationship between project planning and ERP implementation effectiveness.

iii. To examine the effect of Project Planning on ERP implementation.

H3: There is a significant positive relationship between project execution and ERP implementation effectiveness.

iv. To examine the effect of Project Execution (i.e., ERP is the project).

H4: There is a significant positive relationship between project monitoring and controlling.

v. To examine the effect of Project Monitoring and Controlling on ERP implementation.

H5: There is a significant positive relationship between project closing and ERP implementation effectiveness.

1.5. Significance of the Study

In successful ERP projects, the adopting organizations witnessed substantial improvements in their performance. The implementation of ERP systems is not easy and figures show very high failure ratio burden organizations with serious losses. Minaye's cartoon factory can be a good example the researcher has witnessed.

Implementing an ERP system is a major project requiring a significant level of resources, commitment and changes throughout the organization. Often the ERP implementation project is amongst the biggest projects that an organization may launch. As a result, the issues surrounding the implementation process have been one of the major concerns in industries.

In spite of the significant resources invested in ERP systems globally and the high failure rate of their deployment, together insist on the need for a more thorough investigation of the various aspects that could affect the process of implementation's success or failure.

By analyzing the impacts of various project management processes in ERP implementation, this study's findings will provide Minaye's management with insights into the system's functionality, emphasizing both the benefits gained and the challenges encountered. This will help raise awareness about the significance of these systems. Furthermore, exploring multiple ERP systems can offer

valuable perspectives on which one would best serve the company. However, after evaluating the advantages and disadvantages, the management team has decided to commit to a single ERP system.

In addition, the recommendations from this study can serve as valuable input for further research in the realm of ERP projects. Companies planning to implement ERP systems can benefit from the findings of this research, gaining insights that are applicable to their own contexts. Moreover, the identified gaps highlighted in previous studies, such as the fragmented focus on specific project management elements and the lack of comprehensive frameworks, can also inform future research directions. Limitations of this study may present additional research questions worth exploring. By addressing these gaps, future investigations can offer a more holistic understanding of how project management practices impact the effectiveness of ERP implementations, particularly in developing contexts like Ethiopia. This comprehensive approach will ultimately contribute to enhanced organizational performance and greater project success. On top of that, The study can be beneficial as a literature base for other assessments into similar subjects.

1.6. Scope and Limitations of the study

This research was conducted as a single-case study to assess the effects of project management processes on the effectiveness of ERP implementation within the Minaye business units. The objectives include evaluating the impact of these processes and identifying best practices for future implementations. Data were collected from top management, human resources, information technology, and primarily operations staff, as they are the implementers and daily users of the system. This selection ensures relevant insights into the implementation process, along with recommendations and lessons learned. The findings are based on the questionnaire provided to the company, but it is important to note that there are external factors influencing the effectiveness of ERP implementation beyond effective project management, as highlighted in the research findings. Additionally, the conceptual framework used in this study may not be universally applicable across different industries or organizational contexts, as varying factors could affect ERP success.

Furthermore, quantifying success metrics related to ERP implementation can be challenging, leading to potential discrepancies in evaluating effectiveness across dimensions such as budget, user-friendliness, system functionality, decision-making, and organizational performance. Ultimately, this study aims to provide actionable recommendations for improving ERP implementation while acknowledging that its single-case focus may limit generalizability, contributing to a better

understanding of ERP systems and project management practices.

1.7. Organization of the study

The research is organized in five chapters. The first chapter starts with a general introduction about project management and ERP systems. It gives details of the statement of the problem, the significance of the research, its scope and limitations. The second chapter is detailed with literature review about Project Management Processes and ERP, theoretical review and empirical review. The third chapter discuss in detail about the methodology of the research, data collection instruments, and analysis techniques. Chapter four is about analyzing the data, discussion and findings. The last and the fifth chapter contains conclusions, and recommendations for future works.

CHAPTER TWO

2. LITERATURE REVIEW

2.1. Theoretical literature

2.1.1. Project Management

Project Management; Introduction

A project is defined by PMI as "a temporary endeavor undertaken to produce a unique product, service, or result" (PMBOK, 2008), meaning it is a one-time effort with a definite start and end point, a budget, a clearly defined scope, and specific performance requirements (J. Heagney, 2012). Project management, as outlined in the PMBOK guide, involves applying knowledge, skills, tools, and techniques to project activities to meet requirements, achieved through five process groups: initiating, planning, executing, monitoring and controlling, and closing (PMBOK, 2008). It encompasses a set of skills to reduce risk and enhance success, a suite of tools like templates and software, and processes to manage time, cost, quality, and scope, such as risk management and change management (J. Westland, 2006).

Kerzner (2006) defines project management as the planning, organizing, directing, and controlling of company resources to achieve specific short-term goals. Projects must be completed within their time, budget, and quality constraints, with failures often tied to cost, quality, or time issues (Rao P, 2016). The benefits of project management include clear role definitions, reduced reporting needs, structured progress tracking, early issue detection, improved estimation skills, and better goal identification (Kerzner, 2003).

Project Management; Processes

The Project Management Institute (PMI) defines 42 distinct project management processes, which are categorized into five process groups: Initiating, Planning, Executing, Monitoring and Controlling, and Closing. Each process contributes to the successful management of a project.

The **Initiating** phase involves defining the project's purpose, developing a business case, conducting a feasibility study, and appointing a project team. Key activities include creating a project charter and identifying stakeholders to ensure alignment with organizational goals (J. Westland, 2006).

The **Planning** phase focuses on defining objectives, scope, and deliverables. It involves creating detailed plans for scope, schedule, cost, quality, resources, communications, risk, and procurement. A Work Breakdown Structure (WBS) is used to break down the project into manageable components, ensuring all tasks are accounted for. This phase also includes estimating costs, developing a budget, and planning risk responses to prepare for potential challenges (J. Westland, 2006).

During the **Executing** phase, the project team carries out the work defined in the project management plan. This includes acquiring resources, developing the team, managing communications, and conducting procurements. The focus is on delivering project outputs while ensuring quality and stakeholder engagement (J. Westland, 2006).

The **Monitoring and Controlling** phase ensures the project stays on track by tracking progress, managing changes, and controlling scope, schedule, costs, and quality. Risks are monitored, and corrective actions are taken as needed. This phase also involves validating deliverables and ensuring they meet stakeholder requirements (Singh, Chandurkar, and Dutt, 2017).

Finally, the **Closing** phase formally concludes the project. It includes verifying that all deliverables are completed, obtaining customer acceptance, and releasing project resources. A post-implementation review evaluates the project's success based on objectives, scope, quality, schedule, and budget. Lessons learned are documented to improve future projects (J. Westland, 2006).

Project Management; Knowledge Areas

The following knowledge areas correspond to the processes above and encapsulate the specific areas of focus in project management:

Project management knowledge areas represent the core focus areas for managing projects effectively. Project **Integration** Management ensures all project activities are coordinated and aligned for overall success (J. Westland, 2006). Project **Scope** Management defines and controls what is included in the project, focusing on deliverables, boundaries, and constraints. Project **Schedule/Time** Management involves planning and controlling the project timeline, often using timesheets to track time and costs for tasks (J. Westland, 2006).

Project **Cost** Management focuses on estimating, budgeting, and controlling costs through expense forms that detail activities, dates, and amounts (J. Westland, 2006). Project **Quality** Management

ensures deliverables meet quality standards through reviews, assurance, and control methods. Project **Resource** Management involves planning and managing resources like labor, equipment, and materials to complete the project (J. Westland, 2006).

Project **Communications** Management ensures effective stakeholder communication by outlining information needs, schedules, and methods in a communications plan (J. Westland, 2006). Project **Risk** Management identifies, quantifies, and mitigates risks throughout the project lifecycle to minimize their impact. Project **Procurement** Management manages the acquisition of goods and services from external suppliers, including supplier relationships and procurement timelines (J. Westland, 2006). Finally, Project **Stakeholder** Management identifies and engages stakeholders, ensuring their needs and expectations are met to foster collaboration and support.

These knowledge areas provide a structured framework for managing projects systematically, ensuring successful delivery within defined parameters.

2.1.2. ERP system

ERP system overview

Enterprise Resource Planning (ERP) systems are integrated software solutions that consolidate business operations into a unified platform, providing real-time information across departments. Initially developed in the 1960s for inventory control, ERP systems evolved through Material Requirements Planning (MRP) in the 1970s, Manufacturing Resources Planning (MRP II) in the 1980s, and fully integrated ERP systems in the 1990s. By the 2000s, ERP expanded to include supply chain management and customer relationship management, making it a comprehensive tool for modern organizations. ERP systems streamline processes, reduce redundancy, and enhance decision-making through a shared database, improving supply chain efficiency, financial performance, and inventory management (Swartz & Orgill, 2001; Davenport, 2000; Huang et al., 2003).

Main and Sub-Modules of ERP System

ERP systems consist of core modules that address various business functions. The Financials module manages accounting data and processes, including General Ledger, Accounts Payable/Receivable, Asset Management, and Budgeting. The Human Resources module handles payroll, organizational management, time tracking, and employee training. The Logistics & Operations module oversees materials management, production planning, and quality control. Finally, the Sales & Marketing

module manages order processing, sales planning, and after-sales service, ensuring seamless customer relationship management.

Critical Failure Factors for ERP Implementation

ERP implementation projects often face high failure rates, primarily due to resistance to change, poor change management, and misalignment with business needs. Employees may resist new workflows, and inadequate planning can lead to unrealistic expectations. Successful implementation requires addressing cultural and operational challenges, re-evaluating user needs, and adopting effective change management strategies to ensure alignment with organizational goals.

Common failure factors in ERP implementation include poor change management, unrealistic expectations, and inadequate planning. Insufficient communication, data migration issues, and lack of user training can also lead to failure. Misalignment with vendor capabilities, weak project management, and resistance to change further exacerbate the risks. Addressing these factors early in the implementation process is critical to mitigating risks and ensuring project success (Momoh et al.; Peng & Nunes).

Advantages and Disadvantages of ERP

ERP systems offer significant advantages, including operational improvements such as increased productivity, cost reduction, and enhanced customer satisfaction. Managerially, they support better decision-making and resource management, while IT infrastructure benefits include reduced costs and increased flexibility. Organizationally, ERP fosters a shared vision and empowers employees. However, ERP systems also have drawbacks, such as high implementation costs, complexity, and time-consuming processes. Challenges like data migration, resistance to change, and dependency on endors can further complicate implementation. Additionally, limited flexibility and the risk of failure pose significant risks to organizations (Chung, 2007; Bin Embong, 2008; Koes Boersma, 2005).

Critical Success Factors for ERP Implementation

Critical success factors (CSFs) are essential for effective ERP implementation. Top management support, clear objectives, and competent project teams are crucial for success. Effective project management, interdepartmental collaboration, and communication also play vital roles. Aligning ERP systems with the organization’s business vision and processes ensures smoother implementation and long-term success (Somers et al., 2001; Al-Mashari, 2003).

It's important to note that each ERP implementation is unique, and the specific factors contributing to failure may vary depending on the organization and project circumstances. Identifying and addressing these factors early on can help mitigate risks and increase the chances of a successful ERP implementation.

2.2. Empirical literature

ERP in Universities

According to Abbas (2011), the major benefits of ERP implementation are improved productivity and reduced cost. Particularly, the central repository that stores data can give universities to easy and up-to date access to users. Also, he indicated that "*One of the common goals of all the educational institutions is a paper free environment and these ERP systems need to be able to facilitate this change*". By implementing ERP system, MIT converted many paper processes to ERP system processes. Although some processes still allow a paper work for handling exceptions, this resulted in decreasing manual work. Universities have turned to ERP systems as a means of replacing existing management and administration techniques by use of computer systems.

ERP Implementation in MIE

Abiot and Gomez conducted their research on ERP implementation at Mesfin Industrial Engineering Pvt. Ltd. (MIE) in Ethiopia, highlighting the unique challenges faced by organizations in developing countries when adopting advanced technologies. The study emphasizes the need for a holistic approach that includes thorough planning, effective communication, and ongoing support. Despite encountering obstacles such as resistance to change and technical limitations, the successful outcomes at MIE illustrate that ERP systems can significantly enhance operational capabilities when implemented thoughtfully (Abiot, S. and Gomez, J, 2012).

ERP implementation in Ethiopian Airlines

The research by Sintayehu Demeke (2014) identifies critical success factors for the implementation of SAP ERP at Ethiopian Airlines, essential for effective adoption and integration of the system. Key factors include effective project planning, strong top management support, skilled project management and leadership, and the capability of external consultants. Additionally, managing change and addressing resistance, ensuring clear communication, fostering organizational readiness, and facilitating knowledge transfer are highlighted as crucial elements. These factors reflect the unique

challenges of ERP implementation in Ethiopia, which may differ from those in more developed contexts (Sintayehu, 2014)

ERP implementation at Ethio-Telecom

Derese's research highlights several key aspects of the Oracle ERP implementation at Ethio- Telecom. The study identifies various challenges faced during the implementation process, including resistance to change, inadequate training, and insufficient stakeholder engagement. Despite the challenges, the research underscores the benefits of the Oracle ERP system, such as improved data management, streamlined processes, and enhanced reporting capabilities, which contribute to better decision-making. A significant finding is the importance of comprehensive training and ongoing support for users, which are essential for maximizing the system's potential and minimizing resistance. The research suggests that Ethio-Telecom should focus on continuous training, effective change management strategies, and fostering a culture that embraces technological changes to fully realize the benefits of the ERP system. This empirical literature provides valuable insights into the implementation and management of ERP systems in the Ethiopian context, particularly within a government organization, highlighting both the challenges and advantages of such systems (Derese, 2013).

CSF of ERP on DBE and CBE

In his 2021 study, Henok Azage investigates the critical success factors (CSFs) for the implementation of Enterprise Resource Planning (ERP) systems at the Development Bank of Ethiopia (DBE) and the Commercial Bank of Ethiopia (CBE). The research highlights that managerial factors, project-related factors, and organizational factors play significant roles in determining the success of ERP implementation. Key findings indicate that top management support, effective project management, and user training are pivotal in enhancing the likelihood of successful system integration. The study employs a quantitative approach, gathering data from 82 participants involved in the ERP implementation process, and utilizes multiple regression analysis to assess the relationship between the identified factors and implementation success.

Henok's work contributes to the understanding of ERP systems within the Ethiopian banking sector, emphasizing the importance of strategic planning and stakeholder engagement in the implementation process. The research reveals that while certain factors like project vision and system selection do not

significantly impact success, others, such as teamwork and training, are statistically significant. Overall, the study underscores the need for banks in Ethiopia to focus on these critical success factors to optimize their ERP initiatives, thereby improving operational efficiency and aligning with best practices in the industry (Henok, 2021).

ERP Implementation on Heineken Breweries S.C.

Saron Gebremedhin's (2017) thesis on the assessment of ERP implementation at Heineken Breweries S.C. in Ethiopia emphasizes the critical success factors (CSFs) that influence the successful deployment of ERP systems in a manufacturing context. The study identifies six main CSFs: top management support, project team competency, user training and education, interdepartmental communication, business process reengineering, and consultant involvement. Through empirical analysis, Saron demonstrates a significant positive relationship between these factors and the success of ERP implementation, indicating that Heineken managed to integrate the ERP system effectively, thus enhancing operational efficiency and decision-making processes within the organization.

Moreover, the research highlights the unique challenges faced by Heineken in the Ethiopian context, which may differ from those in developed countries. Saron's findings suggest that understanding local cultural and organizational dynamics is crucial for ERP success. The study serves as a valuable resource for future ERP implementations, particularly in similar developing contexts, by providing insights into how critical success factors can be leveraged to improve the effectiveness of ERP systems, thus contributing to overall organizational performance (Saron, 2017).

Success Factors of (ERP) on Ethiopia Postal Service Enterprise

Tewodros Berihun's 2019 study investigates the critical success factors influencing the implementation of Enterprise Resource Planning (ERP) systems within the Ethiopia Postal Service Enterprise (EPSE). The research identifies top management support, effective project management, user training, and change management as pivotal elements that significantly affect the success of ERP deployment. Furthermore, the study highlights the importance of aligning internal processes with ERP capabilities while addressing external factors such as organizational culture and market dynamics, which also play a crucial role in the successful integration of ERP systems.

The findings reveal that while the implementation of ERP systems promises enhanced efficiency and streamlined operations, EPSE faces challenges such as employee resistance, inadequate training, and lack of leadership commitment. The study emphasizes that overcoming these barriers requires a

comprehensive approach involving stakeholder engagement, ongoing training, and strong leadership to foster an environment conducive to effective ERP utilization. Ultimately, Tewodros's research contributes valuable insights into the complexities of ERP implementation in the Ethiopian context, providing a framework for future studies and practical recommendations for organizations embarking on similar initiatives (Tewodros, 2019).

Post- ERP Management at Ethiopian Airlines

Elsa Taddele's (2015) research focuses on developing a post-implementation management framework for ERP systems at Ethiopian Airlines. The study aims to address the challenges faced after the initial implementation phase, emphasizing the importance of effective management to ensure the sustainability and optimization of the ERP system. The research identifies several challenges encountered by Ethiopian Airlines post-ERP implementation, including user resistance, inadequate training, and system integration issues. She proposes a comprehensive management framework that includes strategies for continuous improvement, user support, and system maintenance, aimed at enhancing the effectiveness of the ERP system. The findings highlight the necessity of ongoing user engagement and support, which are critical for addressing issues and maximizing the benefits of the ERP system. The research suggests implementing regular training programs, establishing clear communication channels, and fostering a culture of collaboration to improve post-implementation management (Elsa, 2015).

Project Management Capability Assessment at MIE

Temesgen Tewelde’s research on project management capability highlights the importance of maturity models in assessing and improving project management practices within organizations. His findings indicate that many organizations, including Mesfin Industrial Engineering PLC, struggle with consistently applying defined project management processes, often operating at a maturity level below optimal standard. This inconsistency can lead to challenges in effectively implementing complex systems like ERP, where structured processes are critical for aligning project objectives with organizational goals. The study underscores the necessity of establishing robust project management capabilities that not only define but also rigorously apply best practices across all project activities, thereby enhancing the overall effectiveness of enterprise resource planning initiatives.

Moreover, Tewelde identifies several limitations in existing project management frameworks, including insufficient organizational support and a lack of comprehensive training for project teams.

These limitations can hinder the successful execution of ERP projects, which require extensive cross-functional collaboration and adherence to established project management methodologies. His recommendations advocate for a strategic approach to project management that includes regular assessments of maturity levels and targeted training programs to bridge identified gaps. By incorporating these insights, organizations can better navigate the complexities of ERP implementation, ultimately leading to improved project outcomes and increased operational efficiency (Temesgen, 2013).

Project Management Process on Jambo Construction PLC

The effectiveness of Enterprise Resource Planning (ERP) implementation is significantly influenced by robust project management processes. Key practices such as thorough planning, stakeholder engagement, and effective change management are crucial for aligning ERP systems with organizational goals. Studies indicate that clear project scopes and defined objectives help mitigate risks associated with scope creep and resource allocation, which are common challenges during ERP projects. Additionally, involving stakeholders throughout the project lifecycle fosters collaboration and reduces resistance to change, ultimately enhancing user adoption and system effectiveness.

Despite the positive impact of project management on ERP implementation, several challenges and limitations persist. Variability in project management practices across organizations can hinder the generalization of findings, while limited access to comprehensive data may restrict the analysis of project outcomes. Furthermore, the dynamic nature of ERP projects often leads to difficulties in assessing long-term effectiveness post-implementation. To counter these issues, organizations are encouraged to invest in comprehensive training programs and establish clear communication channels. Regular project reviews can also facilitate early identification of potential issues, ensuring that ERP systems meet their intended objectives and deliver value to the organization.

Saron Gelana's 2022 research, "The Effectiveness of Project Management Process on the Performance of Jambo Construction PLC," provides valuable empirical insight into the relationship between project management practices and organizational performance within the construction sector. The study's key concept revolves around establishing a causal link between the efficacy of implemented project management processes and the resultant performance of Jambo Construction PLC (Saron, 2022).

Project Management Practices on A.A. Water and Sewerage Authority

Incorporating insights from Firehiwot Animaw's case study on project management practices at the

Addis Ababa Water and Sewerage Authority can significantly enhance the literature review for your research on the effectiveness of ERP implementation. Firehiwot's research emphasizes the critical role of structured project management processes in achieving project objectives. It highlights that effective project management practices, particularly in areas such as risk management and stakeholder engagement, contribute to minimizing challenges like cost overruns and delays. These insights suggest that similar project management methodologies could be pivotal in ERP projects, where clear goals, timelines, and resource allocations are essential for success.

However, Firehiwot also identifies significant challenges and limitations within the project management practices explored in the case study, such as insufficient training and lack of standardized methodologies. These challenges resonate with common issues faced during ERP implementations, where organizational inertia and inadequate change management can hinder progress. Recommendations from the study, including the adoption of a standardized project management framework and enhanced capacity building for project teams, are particularly relevant. They advocate for a comprehensive approach to project management that could similarly improve the effectiveness of ERP implementation by ensuring that all critical phases—from initiation to closure—are adequately addressed, thus enhancing overall project success (Firehiwot, 2019).

Project Management Practices on Ministry of Agriculture

Solomon Gizaw's (2022) research, "Assessment of Project Management Practices and Challenges: Evidence from Selected Projects at the Ministry of Agriculture," offers valuable empirical insights into project management within a specific governmental context. The study's key concepts revolve around the effectiveness of implemented project management practices and the identification of prevalent challenges hindering successful project completion.

The findings highlight a mixed bag of project management practice adoption. While some projects exhibited adherence to established methodologies concerning planning, scheduling, and budgeting, others demonstrated significant deficiencies. The research likely identifies specific areas of weakness, such as inadequate risk management, poor communication, and a lack of stakeholder engagement. These shortcomings contribute directly to observed project challenges, potentially manifesting as cost overruns, schedule delays, and ultimately, compromised project outcomes. The specific methodologies employed by Gizaw, such as surveys, interviews, or document analysis, would further contextualize these findings.

Based on these empirical observations, the research likely recommends several improvements. These

might include strengthening capacity building initiatives for project managers, introducing more robust project management tools and techniques, enhancing inter-departmental communication, and fostering a stronger culture of accountability and risk mitigation. The recommendations are likely tailored to the specific context of the Ministry of Agriculture, potentially suggesting policy changes or the adoption of best practices from other governmental or private sector organizations.

In conclusion, Gizaw's research provides a valuable contribution to the understanding of project management effectiveness within the public sector. By identifying key challenges and proposing tailored recommendations, the study offers a practical framework for enhancing project management capabilities and achieving improved outcomes within the Ministry of Agriculture, which can potentially serve as a model for similar governmental bodies (Solomon, 2022).

2.3. Literature Summary and Gaps

The existing literature on ERP implementation, particularly within the Ethiopian context, highlights numerous challenges and critical success factors (CSFs) but reveals significant gaps that need addressing:

Fragmented Focus: Many studies concentrate on specific aspects of project management or individual knowledge areas, failing to adopt an integrated approach that encompasses multiple project management knowledge areas. This narrow focus limits the understanding of how various elements interrelate and contribute to ERP success.

Lack of Comprehensive Frameworks: While some research discusses the benefits and challenges of ERP implementation, there is insufficient development of comprehensive frameworks that encompass both project management practices and ERP integration. This omission restricts organizations from effectively navigating the complexities of ERP systems.

Context-Specific Challenges: The literature often does not adequately address the unique challenges faced by organizations in developing countries, such as resistance to change, inadequate training, and lack of stakeholder engagement. These factors can significantly impact the effectiveness of ERP systems but are not consistently explored.

Evaluation of Project Management Practices: Previous studies have not sufficiently evaluated the overall impact of project management practices on ERP effectiveness. There is a need for more

empirical research that assesses how structured project management processes can enhance ERP system performance and organizational outcomes.

Insufficient Consideration of Organizational Context: The applicability of project management practices often varies across different organizational contexts, yet this variability is not thoroughly investigated in the literature. This gap suggests a need for tailored approaches that consider specific organizational needs and environments.

Post-Implementation Management: There is limited exploration of post-implementation management strategies for ERP systems, including ongoing support and user engagement, which are critical for maximizing the benefits of ERP.

By addressing these gaps, future research can provide a more holistic understanding of how project management practices influence the effectiveness of ERP implementations, particularly in developing contexts like Ethiopia. This will contribute to improved organizational performance and project success.

2.4. Conceptual Framework

The conceptual framework for this study illustrates the relationship between project management processes (initiation, planning, execution, monitoring and controlling, and closing) and ERP implementation effectiveness. The five project management processes are identified as independent variables that directly influence the dependent variable, ERP implementation effectiveness, which is measured through system adoption, operational efficiency, and business performance improvements. The framework posits that effective project management processes lead to successful ERP implementation, providing a structured approach to achieving organizational goals.

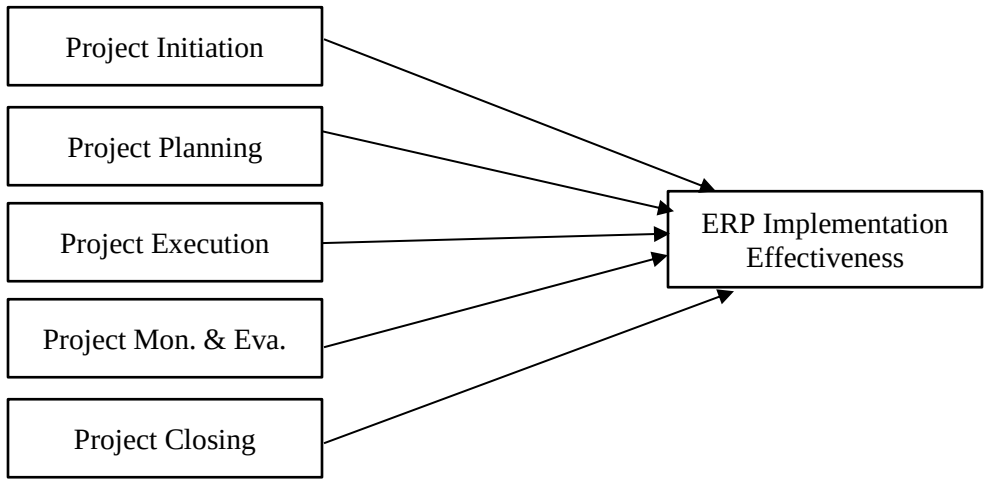

Figure 2.1: Conceptual Framework of the Study

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1. Overview

Research methodology is a systematic approach to solving research problems, understood as the science of studying how research is conducted scientifically (Kothari, 2004). In this chapter, the research design, sampling design, data collection methods, and data analysis are discussed in detail. All elements in this chapter were constructed based on the purpose of the research, which is the effects of project management processes on the effectiveness of ERP implementation.

The impact of project management procedures on the rollout of ERP at Minaye Group Companies has been thoroughly examined in this study. This paper covers the strategies and approaches employed throughout the research, including the research strategy, research design, data types and sources, and sampling and data collection methods. The research is now complete, and the findings are ready to be presented.

3.2. Research Approach

According to Creswell (2014), research approaches are plans and procedures that guide the steps from broad assumptions to detailed methods of data collection, analysis, and interpretation. The three commonly implemented research approaches are quantitative, qualitative, and mixed methods. For this study, a mixed methods approach was adopted, combining both quantitative and qualitative methods. The quantitative approach was used to reach a large number of staff, while the qualitative approach was employed to explore in-depth opinions of key individuals.

Mixed methods research has gained popularity because it leverages the strengths of both qualitative and quantitative approaches, providing a more comprehensive understanding of research problems. By combining these methods, the study gains deeper insights than either approach could offer independently (Creswell, 2014). For the quantitative part, simple random sampling was used, while purposive sampling was applied for the qualitative part, ensuring a balanced and effective data collection process.

3.3. Research Design

The study employed a descriptive and explanatory research design. The descriptive design was

used to describe the extent of ERP implementation success and the characteristics of the five independent variables: project initiation, project planning, project execution, project monitoring and control, and project closure. This design helped in summarizing the data using statistical measures such as averages, frequencies, and percentages, providing a clear picture of the current state of ERP implementation.

Mixed methods research has gained popularity because it leverages the strengths of both qualitative and quantitative approaches, providing a more comprehensive understanding of research problems. By combining these methods, the study gains deeper insights than either approach could offer independently (Creswell, 2014). For the quantitative part, simple random sampling was used, while purposive sampling was applied for the qualitative part, ensuring a balanced and effective data collection process.

The explanatory design was applied to examine the relationships between the independent variables and ERP implementation success. This design aimed to explain how and why these variables influence the success of ERP projects. Data collection methods included surveys, observations, and interviews. The quantitative approach relied on ordinal Likert scale data to measure respondents' views and opinions, while the qualitative approach involved key informant interviews with selected experts to gather additional insights. Both primary and secondary data were collected, analyzed, and interpreted to achieve the research objectives.

3.4. Population, Sample size and Sampling procedure

Study Population

The study population refers to the total group of individuals with specified characteristics relevant to the research (Richard, 2006). For this study, the target population comprised all ERP system users in Minaye companies, including employees from three districts and the head office in Addis Ababa. According to data obtained from the Human Resource department, there are approximately 1,300 employees in the support divisions, which form the population of interest. However, the study specifically focused on 84 ERP users from key departments such as Human Resources, Marketing and Sales/Export, Stores Management and Inventory, Finance, Asset Management, and Sourcing and Logistics. Out of these, 73 respondents completed and returned the questionnaire, representing a response rate of 86.9%.

Sample Size and Sampling Procedures

Sampling is the process of selecting a subset of the population for study. In this research, the sample size was determined using the Taro Yamane sampling formula, which is widely used for calculating sample sizes in finite populations. The formula is given as:

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

Where:

n = sample size
N = population size (84 ERP users)
e = margin of error (set at 5% or 0.05 for this study)

Applying the formula: $n = \frac{84}{1+84(0.05^{2})} \approx \underline{\underline{69.42}}$

Rounding up, the calculated sample size is 70 respondents. However, to ensure a higher response rate and account for potential non-responses, the researcher distributed questionnaires to all 84 ERP users. Ultimately, 73 responses were received, which exceeds the calculated sample size and ensures the study's reliability and validity.

The sampling procedure involved a **Census Approach**, where all ERP users in the target departments were included in the study. This approach was chosen because the population of ERP users is relatively small and manageable, ensuring that all relevant stakeholders were represented. The sample consisted of three main clusters: end-users, project team members, and management. End-users are staff who interact directly with the ERP system, such as data entry and extraction. The project team includes individuals responsible for addressing system issues and requirements, while management comprises decision-makers who rely on system outputs for strategic planning.

By combining the census approach with the **Taro Yamane Formula**, the study ensures that the sample size is both practical and statistically representative, providing reliable insights into the relationship between project management practices and ERP implementation success.

3.5. Data sources and data collection method

It's important to note that the specific data collected can vary depending on the project's nature, industry, and organizational requirements. Project managers should identify the relevant data elements and establish appropriate data collection mechanisms to support effective project

management processes.

In order to achieve its objectives, the research is based on both primary and secondary data.

Primary data

The primary data are those which are collected for the first time and thus happen to be original in character (Kothari, 2004). In this study, the primary data will be collected through questionnaires prepared by the researcher. The primary data is collected through questionnaire. It includes open ended and close ended questions. This instrument of data collection is quite popular, particularly in case of big enquiries.

Questionnaire

The respondents were asked to classify the degree of usage of each process and activities, the assessment of the proper project management practices respondents was asked to rate by means of scale ranging from 1 up to 5 comprised by a Likert scale: 1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree

Secondary data

Secondary data are those that are already available, and refer to data that have already been collected and analyzed by someone else (Kothari, 2004). The secondary data is collected from the company's work processes, policies, procedures, forms and other documents which are linked with the ERP implementation and also different literatures on the area.

Documents Reviewed

Various documents are used to collect information needed. In this regard, the relevant Information from published and unpublished documents including textbooks, journals, Company's reports and publications related to ERP implementation, dissertations, online Materials, training manuals and different papers related to ERP and Project Management. Some of the reviewed are Project Charter, Feasibility study, Previous ERP reports, Strategic Initiative meeting notes.

Data collection is an essential aspect of project management processes as it provides the necessary information to make informed decisions, monitor progress, and evaluate project performance.

Secondary data were gathered from company documents and external sources, organized by project management processes. For Project Initiation, documents such as the Project Charter,

Feasibility Study, and Business Case were reviewed to understand the project's purpose, objectives, and alignment with organizational goals. During Project Planning, Scope Statements, Work Breakdown Structures (WBS), Project Schedules, and Risk Management Plans were analyzed to gather data on deliverables, timelines, resource allocation, and risk mitigation strategies. For Project Execution, Progress Reports, Quality Assurance Checklists, and Change Control Logs were examined to assess progress, quality of deliverables, and change management. In the Project Monitoring and Control phase, Performance Metrics, Issue Logs, and Stakeholder Communication Plans were reviewed to evaluate performance, identify risks, and monitor stakeholder engagement. Finally, for Project Closure, Lessons Learned Reports, Project Evaluation Summaries, and Financial Reports were analyzed to assess project outcomes, final costs, and benefits realization.

3.6. Data Presentation and Data analysis method

The data collected is organized in line with the objective of the study and both qualitative and quantitative analytical procedures will be used. In the qualitative analysis, employee's opinions, and experiences have been investigated in a deep manner to discover the effectiveness of ERP system implementation and the factors affecting it. While in the case of quantitative analysis, the data is analyzed and interpreted using some statistical techniques such as: tables, percentages and charts.

3.6.1. Data Instrument and Measurement

In order to be able to select the appropriate method of analysis, the level of measurement must be understood. For each type of measurement, there is/are an appropriate method/s that can be applied and not others. In this research, ordinal scales were used. Ordinal scale is a ranking or a rating data that normally uses integers in ascending or descending order. The numbers assigned to the important (1, 2, 3, 4, 5) do not indicate that the interval between scales is equal, nor do they indicate absolute quantities. They are merely numerical labels based on Likert scale.

A Likert-type scale consists of a series of statements that define and describe the content and meaning of the construct measured. The statements comprising the scale express a belief, preference, judgment, or opinion. In designing a Likert scale, the generation and wording of individual statements are crucial tasks for producing an instrument that yields valid and reliable summated scores (Edwards, 1957; Oppenheim, 1992; Spector, 1992: cited in Robert, J. 2014).

Rating Scale: Ratting is term applied to express opinion or judgment regarding some situation, object or character. Opinions are usually expressed on a scale of values; rating techniques are devices by which such judgments may be quantified. “Rating is an essence and direct observation.” Ruth Stron (ud): cited in Prabhat and Meenu, 2015).

3.6.2. Data management

Data management is a critical step in ensuring the accuracy, reliability, and usability of the data collected for the study. After collecting the data, the first step was data cleaning, which involved inspecting questionnaires and interview transcripts for completeness and accuracy. Incomplete, inconsistent, or illegible responses were addressed by either contacting respondents for corrections or excluding them to maintain data integrity. Outliers and errors were also checked and corrected. Next, data coding was performed, where numerical values were assigned to categorical data (e.g., Likert-scale responses) and open-ended interview responses were transcribed and coded thematically to identify recurring patterns. The cleaned and coded data were then organized into a structured format, with quantitative data entered into statistical software (e.g., SPSS 26.0) and qualitative data categorized into themes and sub-themes. To ensure confidentiality, all data were stored securely in password-protected digital formats and locked physical cabinets, with backup copies created to prevent data loss. Finally, the data were prepared for analysis by creating datasets, defining variables, and ensuring the correct format for analytical techniques such as descriptive statistics and regression analysis. These data management procedures ensured that the data were accurate, consistent, and ready for meaningful analysis, thereby enhancing the reliability and validity of the research findings.

3.6.3. Reliability and Validity

To ensure the credibility and trustworthiness of the study, measures were taken to address reliability and validity. **Reliability** refers to the consistency and stability of the research instruments and data collection methods. In this study, reliability was ensured through pilot testing, where the questionnaire was tested with a small group of ERP users to identify and address ambiguities or inconsistencies. The internal consistency of the Likert-scale questions was measured using Cronbach’s alpha, with a threshold of 0.7 or higher considered acceptable, confirming that the questionnaire items reliably measured the same construct. For qualitative data, inter-rater reliability was ensured by having multiple researchers review and code interview

transcripts, with discrepancies resolved through discussion and consensus.

Validity refers to the accuracy and appropriateness of the research instruments in measuring what they are intended to measure. Content validity was achieved by having experts in project management and ERP systems review the questionnaire to ensure relevance and comprehensiveness. Construct validity was strengthened through triangulation, combining data from surveys, interviews, and document reviews to cross-verify findings. While the study focused on ERP users within Minaye Companies, external validity was addressed by contextualizing the findings within the specific organizational setting and discussing limitations to ensure cautious generalizations. By addressing reliability and validity, the study ensures that its findings are both consistent and meaningful, providing a solid foundation for data analysis and interpretation.

3.6.4. Model Specification

To analyze the effectiveness of project management practices on ERP implementation at Minaye Companies, a multiple linear regression model was specified using SPSS 26.0. The model includes five independent variables: Initiation Process (IP), Planning Process (PP), Execution Process (EP), Monitoring and Controlling Process (MC), and Closure Process (CP). The dependent variable is the effectiveness of ERP implementation (ERP_Effectiveness).

The regression model can be expressed as follows:

$$\mathrm{ERP}_{\mathrm{Effectiveness}} = \beta 0 + \beta 1\mathrm{IP} + \beta 2\mathrm{PP} + \beta 3\mathrm{EP} + \beta 4\mathrm{MP} + \beta 5\mathrm{CP} + \epsilon$$

In this equation, β_0 is the intercept, while β_1 through β_5 are the coefficients that indicate the strength and direction of the relationships between each independent variable and the dependent variable. The error term ϵ accounts for any unexplained variance in the model. This model allows for a comprehensive evaluation of how each project management practice contributes to the overall success of ERP implementation, utilizing SPSS to conduct the necessary statistical analyses and interpret the results effectively.

3.6.5. Data Analysis

First, the researcher collected the necessary data by administering a questionnaire to employees of Minaye Companies. After gathering the data, it was rearranged, edited, and calculated to ensure completeness for the study. The data was then analyzed using descriptive statistics and multiple

linear regression analysis. Descriptive statistics, including mean and standard deviations, were employed to identify general trends within the data, analyzed with the Statistical Package for Social Sciences (SPSS 26.0). A multiple linear regression model was utilized to determine the relative importance of each independent variable in explaining the success of ERP implementation.

3.7. Ethical Considerations

In this research study, issues relating to the ethical conduct of research such as informed consent, confidentiality and privacy are upheld. According to (Cooper, 2003). Ethics is the norms or standards of behavior that guide moral choices about our behavior and our relationships with others. In addition, the goal of ethics in research is to ensure that no one is harmed or suffers adverse consequence from research activity. Participants and respondents will be given full information on the purpose and objectives of the study in order for them to make informed decisions. Moreover, all information concerning the identity and personality of respondents will be treated with utmost confidentiality. Additionally, all information gathered will be used for the sole purpose of this research study.

In conducting research on the assessment of project management processes in ERP implementation for Minaye companies, prioritizing ethical considerations is crucial. Firstly, obtaining informed consent from all participants involved in the research, including project managers, team members, and stakeholders, is essential. Participants are fully informed about the purpose, nature, and potential risks or benefits of the study. They have the freedom to participate voluntarily or withdraw from the research without facing any negative consequences.

Secondly, ensuring confidentiality and anonymity is paramount. It is important to protect the identities of participants by using pseudonyms or codes when reporting or publishing the research findings. Additionally, all collected data is handled securely, with access restricted to authorized individuals only. By upholding these ethical principles, the research is conducted with integrity and respect for the rights and well-being of the participants.

CHAPTER FOUR

4. DATA ANALYSIS AND INTERPRETATION

4.1. Introduction

Data analysis and interpretation are crucial steps in the research process, transforming raw data into meaningful insights that inform decision-making and drive future actions. In today's data-driven world, the ability to analyze and interpret data effectively is essential for understanding complex phenomena, identifying trends, and making evidence-based recommendations.

The purpose of this study is to investigate Effects of Project management practices on the effectiveness of ERP implementation in the case of Minaye Group. Therefore, this chapter presents the analysis of responses that were received via questionnaires distributed to employees of selected in Minaye Group on their Project management practices on ERP implementation. The researcher was able to get back eighty-four (84) out of the 73 questionnaires administered which gives 87 % response rate. This was done in order to obtain a larger response rate. At the end, all the returned questionnaires were successfully processed for the analysis. Therefore, in this chapter, the data collected from respondents were analyzed and interpreted using quantitative analysis which involves analysis of the demographical information of respondents and the descriptive and inferential statistics used in analyzing the collected data were Correlation and regression analysis based on independent variables on dependent variable.

Correlation and regression analysis are statistical methods used to assess relationships between variables. Correlation analysis measures the strength and direction of the relationship between two variables, with results expressed as a correlation coefficient (r) ranging from -1 to 1: a coefficient of 1 signifies a perfect positive correlation, -1 indicates a perfect negative correlation, and 0 denotes no correlation. In contrast, regression analysis extends this concept by modeling the relationship between one or more independent variables and a dependent variable, aiming to predict the value of the dependent variable based on the independent variables, which are the factors manipulated or controlled. The key differences between the two lie in their purpose and output: correlation measures the strength of the relationship, while regression establishes a predictive model, providing an equation for making predictions. In summary, correlation reveals how closely related the variables are, whereas regression offers a method to predict outcomes

based on that relationship.

4.2. Socio-Demographic Information of Participation

This descriptive analysis is used to look at the data collected and to describe data captured through the questionnaires. It was used to describe the demographic factors for more clarification. It is mainly important to make some general observations about the data gathered for general or demographic questions. The demographic factors used in this research were gender, age, educational qualification, and work experience of respondents in the Minaye Group.

The rest eleven participants of the study were excluded from samples because their reports were either incomplete or inappropriately labeled (which had a negative impact on the result) and therefore they were dropped from data processing.

4.2.1. Gender Information

List of Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	23	29.1	31.5	31.5
	Male	50	63.3	68.5	100.0
	Total	73	92.4	100.0	

Source: Own Survey Data (2024)

Table 4. 1. Gender of respondents

The descriptive analysis from table 4.1, indicates that 68.5 percent of the respondents were males while the rest, 31.5 percent were females. The figure depicted that the project team was dominated by male employees.

4.2.2. Education Information

Education level					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma	1	1.3	1.4	1.4
	Degree	56	70.9	76.7	78.1
	Masters	16	20.3	21.9	100.0
	Total	73	92.4	100.0	

Source: Own Survey Data (2024)

Table 4. 2. Respondents' Educational Background

Concerning educational status, the first degree and above holders (56/77%) followed by masters (16/22%) and (1/1.4%) hold diploma. Hence, since the majority of the respondents are educated, it is possible to conclude that almost all employees are capable of understanding and answering the questions in the questionnaire. So, from this data the researcher understands that the educational status of each respondent has a great value to do with the efficiency and effectiveness of what he/she performs to the Minaye Group.

4.2.3. Experience Information

Work Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4-8	7	8.9	9.6	9.6
	8-12	18	22.8	24.7	34.2
	12 and above	47	59.5	64.4	98.6
	Total	73	92.4	100.0	

Source: Own Survey Data (2024)

Table 4. 3. Respondents' Year of Service

The socio-demographical information participants of the study whose were finally included. The majority of the respondents were 47 (64.4 %) 12 and above years, 18 (24.7%) were aged between 8 to 12years, and the remaining 7 (10%) of the respondents were within the age range of 4 to 8 years respectively. As far as work experience of the respondents is concerned (table 4.3), 47 (64.4%) of the respondents of Minaye Group have 8 to 12 years of working experience. These respondents indicate that employees those who have high company experience where selected as project team. The percentage indicates, employees with high exposure were purposely selected for their expected better performance. First degree and postgraduate degree holders have covered 100 percent of respondents.

4.2.4. Designation Information

What is your position within the organization?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Director Project	6	7.6	8.2	8.2
	Manager	24	30.4	32.9	41.1
	Team Leader	21	26.6	28.8	69.9
	Technical	18	22.8	24.7	94.5
	End users	4	5.1	5.5	100.0
	Total	73	92.4	100.0	

Source: Own Survey Data (2024)

Table 4. 4. Respondents Designation

As the above table 4.4 describes that the respondents were composed of Manager 30.4%, Team Leader 26.6%, Technical 22.8%, Director Project 7.6% and End users 5.1% respectively. Hence, the majorities of Minaye Group company respondents are equal work position of manager, team leader, and technical related areas in company.

4.2.5. Assumption Tests

The assumption of normality was tested using the Shapiro-Wilk test. Results indicated that the data for all variables were normally distributed ($p > 0.05$), supporting the use of parametric tests like Pearson correlation and regression analysis.

Scatterplots were used to assess the linearity of relationships between variables. Visual inspection confirmed that the relationships were linear, supporting the use of Pearson correlation and linear regression.

Multicollinearity was assessed using the Variance Inflation Factor (VIF). All VIF values were below 10, indicating no significant multicollinearity among the independent variables.

Homoscedasticity was assessed using a scatterplot of residuals versus predicted values. The plot showed a random distribution of residuals, confirming the assumption of homoscedasticity.

The Durbin-Watson statistic was 1.89, indicating that the residuals were independent and not autocorrelated.

4.3. Descriptive Statistics analysis

In this part, descriptive statistics, in the form of mean and standard deviation, were presented to illustrate the level of agreement of the respondents with their implications of investigate Effects of Project management practices on ERP implementation in Minaye Group company. This part explains the result of descriptive statistics calculated on the basis of variables included in the evaluating the effects of Project management practices on ERP implementation questionnaires. These studies mainly focus on Project management practices (Initiation Process, Planning Process, Execution Process, Monitoring and Control Process and Closure Process) and ERP Implementation. Therefore, the responses of the respondents for the variables indicated below were measured on five-point Likert scale with: 1= strongly disagree, 2= disagree, 3 = neutral, 4= agree and 5= strongly agree and descriptive statistical methods (frequencies, percentages, tables and mean). But while making interpretation of the results of mean the scales were reassigned as follows to make the interpretation easy and clear. 1-1.8= Strongly Disagree, 1.81–2.6 = Disagree, 2.6 –3.4= Neutral, 3.4–4.20= Agree and 4.2 –5 = Strongly Agree (Best, 1977, as cited by Yonas, 2013).

4.3.1. Perception of Respondents towards Initiation Process

The management of this international company recognized an urgent need to replace its legacy sales and distribution systems with an ERP system so that the visibility of its business operation can be enhanced. The management as- signed this ERP project to the Minaye Group Company. No users were involved in reaching the decision to implement the enterprise system. With insufficient IT resources (personnel and budget) and limited knowledge about ERP, the Minaye Group company decided to outsource, and the project was outsourced to a vendor to deploy an ERP package. The choice of partners was the preference of the management rather than the outcome of a rigorous screening procedure.

Descriptive Statistics			
Items of Initiation Process	N	Mean	Std. Dev.
The ERP project objectives and scope were clearly defined at the initiation stage.	73	3.712	.88944
The ERP project stakeholders were identified and their needs and expectations were considered during project initiation.	73	3.657	.86953
The Company had a project charter for the ERP project	73	3.890	.84264
The basic goals of the project were made clear to the project team	73	3.493	.74765

Appropriate overall Organizational structure	73	3.589	.77881
Valid N (listwise)	73		

Source: Own Survey Data (2024)

Table 4. 5. Descriptive Statistics of Initiation Process

Mean, which is descriptive statistics, was used to evaluate the effect of project Initiation Process on ERP implementation. As shown on table 4.5, that project Initiation Process contains five statements which each statement is all about the variable. Based on respondents' replay, all statements are taken in to account to analysis effects of project Initiation Process on ERP implementation success. The company had a project charter for the ERP project is considered as a relevant factor with high mean 3.89. The ERP project objectives and scope were clearly defined at the initiation stage, The ERP project stakeholders were identified and their needs and expectations were considered during project initiation, appropriate organizational structure Process and the basic goals of the project were made clear to the project team with mean 3.7 and 3.657, 3.589 and 3.494 respectively. The mean values of statements from table 4.5 depicted that respondent agreed with criticality of effect of project Initiation Process on ERP implementation in the Minaye Group Company.

4.3.2. Perception of Respondents towards Planning Process

For projects to be executed effectively and efficiently, an organization's resource planning system (ERP) and project management must work together. ERP systems, which stand for enterprise resource planning, are fundamentally comprehensive software programs made to manage many aspects of an organization's operations, including finance, human resources, procurement, inventories, and manufacturing (Abo Abdo et al., 2019; Yaseen, 2022). These systems centralize data, automate procedures, and give organizations real-time visibility into their resources and operations. The goal of project management, on the other hand, is to achieve particular objectives within predetermined restrictions like time, budget, and scope. It is an organized approach to planning, executing, monitoring, and managing projects. The possibility for integration and collaboration between these two crucial facets of organizational management is what gives them their synergistic relationship (Masa'deh et al., 2017).

Descriptive Statistics

Items of Planning Process	N	Mean	Std. Dev.
A comprehensive ERP project plan was developed, including clear milestones, deliverables, and timelines.	73	3.904	.67008
The ERP project team effectively identified and managed project risks and uncertainties during the planning phase.	73	3.652	.77204
The ERP planning team utilized the log frame approach as a planning tool	73	3.694	.78073
The ERP planning team used network diagram for time planning	73	3.876	.79835
The ERP planning team adopted a bottom-up resource allocation process based on the identification of activities	73	3.753	.70279
Valid N (listwise)	73		

Source: Own Survey Data (2024)

Table 4. 6. Descriptive Statistics of Planning Process

In the above Table 4.6, the respondents were asked whether trust to customize your offerings. Planning Process factor represented by five statements based on the data collected from respondents that developed in Likert scale, they have placed their level of agreements. '' A comprehensive ERP project plan was developed, including clear milestones, deliverables, and timelines is rated as very significant factor'' scored the highest mean value (3.904), followed by The ERP planning team used network diagram for time planning mean value (3.876) and The ERP planning team adopted a bottom-up resource allocation process based on the identification of activities recorded 3.75 mean value, the ERP planning team utilized the log frame approach as a planning tool mean value 3.694 and the last item The ERP project team effectively identified and managed project risks and uncertainties during the planning phase mean value 3.65. In generally, all items for respondents more agreed about Planning Process they gained during ERP implementation which is the more mean value from the statement associated with project Planning Process.

4.3.3. Perception of Respondents towards Execution Process

Effective project management is critical for the successful ERP implementation Abiot, S. and Gomez, J (2012), found that "a lack of proper understanding of the project needs and the inability

to provide leadership and guidance to the project" are the main factors when ERP implementation fails. Thus, effective project management should define clear project objectives, develop a work and resource plan, and carefully track the project's progress. Communication is like the engine for the company who implement ERP system that keeps everything working properly. Communication is as a key component across all factors of their Project Implementation Profile and maintained that communication is crucial within the project team, between the team and the rest of the organization, and with the client. Communication and cooperation should be of two kinds: inwards the project team and outwards to the whole organization. It is necessary to create an understanding and an approval of the implementation (StephanA. Kronbichler, 2009).

Descriptive Statistics			
Items of **Execution Process**	N	Mean	Std. Dev.
The ERP project team executed the project plan according to the defined schedule and allocated resources.	73	3.739	1.01417
The project team communicated and collaborated effectively with minaye end users during the execution phase, ensuring smooth coordination and progress tracking.	73	4.054	.77979
The Company adopted realistic project implementation structure	73	3.835	.72675
The company's feedback is provided to employees regarding their quality performance	73	3.726	.73144
Your Company Project team composed of competent and capable staffs	73	3.652	.73465
Valid N (listwise)	73		

Source: Own Survey Data (2024)

Table 4. 7. Descriptive Statistics of Execution Process

Execution Process factor contains five statements. Respondents were asked to express their level of agreements with the given parameters. The ERP project team executed the project plan according to the defined schedule and allocated resources scores 4.05 values, The Company adopted realistic project implementation structure with 3.84 mean values, The ERP project team executed the project plan according to the defined schedule and allocated resources with mean

value 3.74, The company's feedback is provided to employees regarding their quality performance recorded 3.73 and Your Company Project team composed of competent and capable staffs with mean value 3.652 respectively. The survey results realized criticality of Execution Process for ERP implementation success in the Minaye Group Company.

4.3.4. Perception of Respondents towards Monitoring and Control Process

According to Gudda (2011) monitoring is collecting the necessary information with a minimum effort in order to make a routing decision at the right time. The information gathered contains an important and necessary data base for analysis, discussion, evaluation and reporting. It is a regular and systematic process integrated in all the cycle of projects. It is a continuous function that aims primarily to provide project managers and stakeholders of ongoing project with early indications progress or lack thereof, in the achievement of project objectives (Gudda, 2011).

Descriptive Statistics			
Items of Monitoring and Control Process	N	Mean	Std. Dev.
The ERP project progress was regularly monitored and deviations from the plan were promptly addressed and controlled in each business unit.	73	3.547	.7461
The project team effectively tracked and managed ERP project costs, ensuring adherence to the allocated budget.	73	3.527	.8217
The ERP project adopted the Earned Value Management technique to monitor implementation progress	73	3.602	.8120
Results of performance monitoring were shared timely with project team members	73	3.506	.7839
Corrective actions were taken following monitoring results	73	3.569	.78411
Valid N (listwise)	73		

Source: Own Survey Data (2024)

Table 4. 8. Descriptive Statistics of Monitoring and Control Process

As depicted in Table 4.8 above, for all of the factors, there are variations of responses from the three categories of respondents; so Monitoring and Control Process contain five statements.

Respondents were asked to express their level of agreements with the given parameters. The ERP project progress was regularly monitored and deviations from the plan were promptly addressed and controlled in each business unit success with mean (3.55) followed by The project team effectively tracked and managed ERP project costs, ensuring adherence to the allocated budget with mean value (3.53). Statements like The ERP project adopted the Earned Value Management technique to monitor implementation progress, Results of performance monitoring were shared timely with project team members and corrective actions were taken following monitoring results score a mean of 3.6, 3.5 and 3.57 respectively. Therefore, the survey result depicted that monitoring and control process is critical factor in ERP implementation in Minaye Group Company.

4.3.5. Perception of Respondents towards Closure Process

According to A Guide to The Project Management Body of Knowledge (PMBOK® Guide) – Fifth Edition, The Project Closing Process group consists of those processes performed to conclude all activities across all Project Management Process Groups to formally complete the project, phase, or contractual obligations. Project close typically includes making sure you did everything you set out to do, obtaining final approval from the project sponsor, transitioning to operations, capturing any lessons learned, and disbanding project resources.

Items of Closure Process	N	Mean	Std.D
The project deliverables were successfully completed and met the predefined quality standards.	73	3.657	.8534
Lessons learned from the project were documented and shared to improve future project management practices.	73	3.726	.8376
Disbanding of project contracts was timely done	73	3.712	.7902
Celebration of the ERP project completion was done	73	4.041	.6594
Close supervision of ERP Project is done as a way of controlling costs	73	3.630	.7729
Valid N (listwise)	73		

Source: Own Survey Data (2024)

Table 4. 9. Descriptive Statistics of Closure Process

The above table shows closure process as critical factor for ERP implementation. From the highest

mean value one can deduce that closure process can be considered as Celebration of the ERP project completion was done score mean value 4.04 and the respondents also agreed other items with closure process, the project deliverables were successfully completed and met the predefined quality standards with mean value 3.67, Lessons learned from the project were documented and shared to improve future project management practices with mean value of 3.7, Disbanding of project contracts was timely done with mean value of 3.7 and Close supervision of ERP Project is done as a way of controlling costs with mean value of 3.63 respectively. From the table, mean value shows that there was resistance to new system from users. The mean value of survey result indicated closure process has a positive effect on ERP implementation success.

4.3.6. Perception of Respondents towards Effectiveness of ERP Implementation

Critical Success Factors (CSFs) are intended to identify success factors for avoiding losses and maximize the company's benefits (Al-Mashari et al., 2003; Liao et al., 2018; Umble et al., 2003). Studies in this theme have produced various models and frameworks to provide ERP practitioners with valuable information through studies on the many cases in ERP implementation around the world. For example, al-Mashari, et al., (2003) developed taxonomy of realizing and maximizing ERP success and benefits based on three development stages (setting-up, implementation, and evaluation). Each of these stages involves various essential factors, including management and leadership (in the setting-up phase), ERP package selection, training, system integration and others (in the implementation phase), and performance and management evaluation in the final evaluation phase. The taxonomy has also suggested that successful ERP implementation elements depend on leadership and commitment.

Accordingly, Umble, et al., (2003) compiled 11 crucial stages for successful ERP implementation in the same vein. They described the top three critical factors causing ERP implementation failures: poor planning or poor management, a change in business goals during the project, and a lack of business management support. Meanwhile, other authors have explained the causes of implementation failure: Scope creep, lack of ownership and transfer of knowledge, change management, communication, and performance measurement; the last is the propensity to isolate IT from business affairs Umble, et al., (2003)

Descriptive Statistics

Items of ERP Implementation stages	N	Mean	Std. Dev.
The Project Initiation stage clearly defined the objectives and scope of the ERP implementation.	73	3.6849	.91099
The Requirements Gathering process effectively captured and documented the business needs for the ERP system.	73	3.6575	.86953
The System Selection stage appropriately evaluated and chose the ERP software that aligned with Minaye's requirements.	73	3.8904	.84264
The System Design phase successfully mapped Minaye's business processes to the ERP system.	73	3.4932	.74765
The development and configuration process effectively customized the ERP system to meet specific business requirements.	73	3.5890	.77881
The Data Migration, Testing, Training, Deployment, and Post-Implementation Support activities were executed	73	3.9041	.67008
ERP implementation has realized the expected benefits to the business.	73	3.6575	.76774
Business operational efficiency has been improved after using ERP	73	3.6685	.61121
Business processes have been updated through use of ERP in Minaye's company	73	3.7767	.48399
The financial visibility has been improved after implementing ERP	73	3.8021	.48936
Valid N (listwise)	73		

Source: Own Survey Data (2024)

Table 4. 10. Descriptive Statistics of ERP Implementation Stages

The summary of mean values of effectiveness of ERP Implementation Stages; Project Initiation stage, Requirements Gathering, System Selection, System Design, Development and Configuration, Data Migration and Testing, expected benefits, Business operational efficiency,

Business processes, financial visibility were calculated and presented in table 4.10.

The above table shows that, the mean value of all variables agreed that are The Project Initiation stage clearly defined the objectives and scope of the effectiveness of ERP implementation (M=3.68), The Requirements Gathering process effectively captured and documented the business needs for the ERP system (M=3.66), The System Selection stage appropriately evaluated and chose the ERP software that aligned with Minaye's requirements (M=3.89), The System design phase successfully mapped Minaye's business processes to the ERP system (3.49), The development and configuration process effectively customized the ERP system to meet specific business requirements (M=3.58), Data Migration, Testing, Training, Deployment, and Post-Implementation Support activities has a mean value of M=3.90), Effectiveness of ERP implementation has realized the expected benefits to the business (M=3.657), Business operational efficiency has been improved after using ERP (M=3.66), Business processes have been updated through use of ERP in Minaye's company (M=3.77) and The financial visibility has been improved after implementing ERP (M=3.80) executed effectively to ensure a successful ERP and the summary of mean showed all the success factors under study are factors for effectiveness of ERP implementation in Minaye Group Company.

4.4. Inferential Statistical Analysis

4.4.1. Correlation Analysis

Correlation measures the strength of the linear relationship between two variables. Thus, Pearson's correlation is used to identify whether there are relationships between the variables and to describe the strength and the direction of the relationship between two variables. According to Berndt et. al (2005), the level of association as measured by Pearson's coefficient falls between -1.0 and +1.0, which indicates the strength and direction of association between the two variables. The interpretation of the result is as follows; a correlation result between 0 to 1 implies positive relationship, 0 (zero) for no relationship, 1 for perfect positive relationship, -1 for perfect negative relationship and between +1 to 0 indicate the existence of negative relationship. Though it indicates the existence of a positive or negative relationship, the strength of such a relationship is not high when the results fall below ±0.61 (Oogarah-Hanuman et. al, 2011). It is also supported by Berndt et al (2005), the rules of thumb proposed by Burns & Bush (in van Heerden, 2001) suggests that "moderate" ends at ±0.60, and "strong" starts at ± 0.61.Since all variables are interval, the relationship between Project management practices was investigated using Pearson correlation

coefficient. The results of correlation analysis in the table 4.10 shows that, all the independent variables were positively and significantly correlated with the dependent variable i.e. ERP Implementation at 95 percent confidence level (P<0.05)

Like the descriptive statistical methods, i.e. demographic factors, and the scale typed questionnaire entered to the SPSS software version 26.0 to process inferential statistics methods such as Pearson correlation test to know the degree of relationship between Project management practices and ERP Implementation. Based on the questionnaires filled by the employees of Minaye Group Company, the results of the correlation analysis are shown in table 4.11 below;

Correlations

		MC	CP	IP	PP	EP	ERP
Monitoring and Control Process (MC)	Pearson Correlation	1	.555**	.296*	.635**	.436**	.471**
	Sig. (2-tailed)		.000	.011	.000	.000	.000
	N	73	73	73	73	73	73
Closure Process (CP)	Pearson Correlation	.555**	1	.392**	.537**	.424**	.523**
	Sig. (2-tailed)	.000		.001	.000	.000	.000
	N	73	73	73	73	73	73
Initiation Process (IP)	Pearson Correlation	.296*	.392**	1	.412**	.177	.924**
	Sig. (2-tailed)	.011	.001		.000	.133	.000
	N	73	73	73	73	73	73
Planning Process (PP)	Pearson Correlation	.635**	.537**	.412**	1	.544**	.687**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	73	73	73	73	73	73
Execution Process (EP)	Pearson Correlation	.436**	.424**	.177	.544**	1	.414**
	Sig. (2-tailed)	.000	.000	.133	.000		.000
	N	73	73	73	73	73	73
Effectiveness of ERP Implementation	Pearson Correlation	.471**	.523**	.924**	.687**	.414**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	73	73	73	73	73	73

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

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Own Survey Data (2024)

Table 4. 11. Correlation Analysis

Correlation analysis was conducted to determine the relationship Project management processes (initiation process, planning process, execution process, monitoring and control process and closure process) and the dependent variable i.e. the effectiveness of ERP implementation which revealed that Monitoring and Control Process has significant positive relation with the the effectiveness of ERP implementation as r1 = 0.471, $p < 0.05$, also for Closure Process (CP) relationship has both significant and positive relation with the effectiveness of ERP implementation that is r2=0.523 at p<0.05, Initiation Process shave significant positive relation with the effectiveness of ERP implementation that, r3= 0.924^{**} p< 0.05, Planning Process have significant positive relation with the effectiveness of ERP implementation r5=$0.687^{**,}$ p< 0.05, and Execution Process have significant positive relation with the effectiveness of ERP implementation as r6=0.414^{**} p< 0.05 respectively. In summary, all independent variables of Project management processes have strong positive and significance relationship between effectiveness of ERP implementation in Minaye Group Company.

4.4.2. Multiple Regressions Analysis

Regression model was applied to test how far the effect of Project management practices on ERP Implementation. Coefficient of determination R^2 is the measure of proportion of the variance of dependent variables about its mean that is explained by the independent or predictor variables. It is conducted to investigate the effect of Project management practices on the dependent variable (ERP Implementation) and identify the relative significant influence; i.e. independent variable (initiation process, planning process, execution process, monitoring and control process and closure process). Higher value of R^2 represents greater explanatory power of the regression equation.

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988[a]	.976	.974	.07388
a. Predictors: (Constant), EP, IP, MC, CP, PP				
b. Dependent Variable: ERP				

Source: Own Survey Data (2024)

Table 4. 12. Multiple Regression analysis result of Project Management Practices on ERP Implementation

In above table 4.12 depicts the results of multiple regressions of five effects of Project management practices on ERP Implementation. The result shows that the model tested is significant ($p<0.01$). As far as the above table is concerned, in the R square value of 0.956 this indicates that 95.6 percent of the variance in project success is attributed to the five independent variables entered into the regression and the remaining 2.4 percent of the variance in the Project management practices may be explained by other factors which are not studied, because they are beyond the scope of study. It also agrees with Nasir and Sahibuddin (2011) who listed Realistic schedule that factors identified as Successful Implementation of - ERP.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.092	.088		1.042	.301
	MC	-.006	.022	-.007	-.278	.782
	CP	.012	.025	.012	.478	.634
	IP	.579	.016	.776	35.915	.000
	PP	.289	.027	.307	10.809	.000
	EP	.100	.022	.107	4.582	.000
a. Dependent Variable: ERP						

Source: Own Survey Data (2024)

Table 4. 13. Coefficients of effects of Project management practices on ERP Implementation

According to table above 4.13, the effectiveness of ERP Implementation was statistically significant based on (B=0.776, P=0.000) within initiation process, planning process were statistically significant and (B=0.307, P=0.000), execution process was statistically significant and (B=0.107, P=0.000), respectively. However, Monitoring and Control Process and closure process variables were statistically insignificant (B=-0.007, P=0.782), (B=0.012, P=0.634) respectively. There is negative and insignificant relationship between relationships execution process and effectiveness of ERP Implementation; monitoring and control process negative and zero affects within ERP Implementation with a standardized beta of -0.007, and 0.012, within ($p > .001$) respectively.

4.4.3. Hypothesis Testing Results

Hypothesis Testing: SPSS provide with the necessary statistics to test each hypothesis. we will get:

- **Coefficients**: Indicating the strength and direction of relationships.
- **p-values**: To determine statistical significance against your chosen beta level (e.g., 0.05).
- **Model Summary**: Including R-squared values to assess how well the model explains the variance in the dependent variable.

The analysis of the relationships between project management practices and ERP implementation effectiveness yielded the following findings:

H1. There is a significant positive relationship between project initiation and ERP implementation effectiveness.

Result: Supported (B = 0.776, p = 0.000). This indicates that effective project initiation significantly enhances ERP implementation outcomes.

H2. There is a significant positive relationship between project planning and ERP implementation effectiveness.

Result: Supported (B = 0.307, p = 0.000). This suggests that thorough project planning is positively associated with successful ERP implementation.

H3. There is a significant positive relationship between project execution and ERP implementation effectiveness.

Result: Supported (B = 0.107, p = 0.000). This finding indicates that effective execution plays a crucial role in achieving successful ERP outcomes.

H4. There is a significant positive relationship between project monitoring and controlling.

Result: Not supported (B = -0.007, p = 0.782). The results showed an insignificant relationship between project monitoring and controlling and ERP implementation effectiveness. Thus, we fail to reject Hypothesis 4, indicating that monitoring and controlling processes do not significantly impact ERP effectiveness.

H5. There is a significant positive relationship between project closing and ERP implementation effectiveness.

Result: Not supported (B = 0.012, p = 0.634). The findings indicated an insignificant relationship between project closing and ERP implementation effectiveness. Consequently, we also fail to reject Hypothesis 5, suggesting that project closing does not significantly affect ERP implementation effectiveness.

4.5. Open- Ended Questions Analyses

The management of this Minaye Group Company recognized an urgent need to replace its legacy sales and distribution systems with an ERP system so that the visibility of its business operation can be enhanced. The management as- signed this ERP project. No users were involved in reaching the decision to implement the enterprise system. With insufficient resources (personnel and budget) and limited knowledge about ERP, and the project was outsourced to a vendor to de- ploy a Minaye Group. The choice of partners was the preference of the management rather than the outcome of a rigorous screening procedure.

In the process, the Minaye Group faced the challenge of determining the extent of customization. Facing constraints of internal resources, the corporate executives first decided to adopt the "vanilla" ERP, where modifications to the purchased system are kept at the minimum to minimize risks. The poor outcomes of implementation and support in the first phase created serious resentment among management, of Minaye Group, and users. The clash triggered the departure of the Minaye Group and several system analysts. To control this crisis, the company recruited a Minaye Group director nine months later to rebuild the Minaye Group. To overcome the problem of limited HRs, the new director established an organization committee to prioritize the requests for ERP support and enhancements.

All functional areas assigned a representative to serve on this committee to help establish priorities for user requests. This committee institutionalized a scope management control policy to prioritize users' problems and needs with maintenance and support. For instance, user requests with lower urgency would be resolved when the system was redeployed. Only urgent requests, such as bug corrections and those with high business impacts, were allowed to be addressed immediately as the business application manager stated.

4.6. Discussion of Result (Findings)

The purpose of this study is to investigate the Effects of Project management practices on ERP implementation in the case of Minaye Group. To this end, the study has considered selected (Initiation Process, Planning Process, Execution Process, Monitoring and Control Process and Closure Process and the effectiveness of ERP Implementation. To examine the stated research problem the study has adopted *descriptive research and explanatory research design* within mixed

approaches. Accordingly, the data was gathered using structured questionnaire and the data collected through this questionnaire was analyzed quantitatively.

This section therefore, summarizes and presents the core points and major findings as follows.

With respect to the demographic information of the respondents, that the majority of respondents were males (68.5 percent) respectively. majority respondents were found (65 percent of the respondents of company have 12 and above years of working experience, as far as the educational qualification of employees is concerned in 77 percent were first degree holders and second-degree holders who constitute 22% percent of the respondents in the company, the majorities of respondents are equal work position of manager, team leader, and technical related areas in company respectively.

The company had a project charter for the ERP project is considered as a relevant factor with high mean 3.89 and The ERP project stakeholders were identified and their needs and expectations were considered during project initiation, appropriate organizational structure Process and the basic goals of the project were made clear to the project team with mean 3.7 and 3.657, 3.589 and 3.494 respectively.

All items for respondents more agreed about Planning Process they gained during ERP implementation which is the more mean value from the statement associated with project Planning Process.

The ERP project team executed the project plan according to the defined schedule and allocated resources scores 4.05 values, The Company adopted realistic project implementation structure with 3.84 mean values, The ERP project team executed the project plan according to the defined schedule and allocated resources with mean value 3.74, The company's feedback is provided to employees regarding their quality performance recorded 3.73 and Your Company Project team composed of competent and capable staffs with mean value 3.652 respectively.

The ERP project progress was regularly monitored and deviations from the plan were promptly addressed and controlled in each business unit success with mean (3.55) followed by The project team effectively tracked and managed ERP project costs, ensuring adherence to the allocated budget with mean value (3.53). Statements like The ERP project adopted the Earned Value Management technique to monitor implementation progress, Results of performance monitoring were shared timely with project team members and corrective actions were taken following monitoring results score a mean of 3.6, 3.5 and 3.57 respectively.

From the highest mean value one can deduce that closure process can be considered as Celebration of the ERP project completion was done score mean value 4.04 and the respondents also agreed other items with closure process, the project deliverables were successfully completed and met the predefined quality standards with mean value 3.67, Lessons learned from the project were documented and shared to improve future project management practices with mean value of 3.7, Disbanding of project contracts was timely done with mean value of 3.7 and Close supervision of ERP Project is done as a way of controlling costs with mean value of 3.63 respectively.

The summary of mean values of ERP Implementation agreed that are Project Initiation stage, Requirements Gathering, System Selection, System Design, Development and Configuration, Data Migration and Testing, Training, Deployment, and Post-Implementation Support activities, expected benefits from ERP, operational efficiency, Business processes and the financial visibility. These key stages have contributed to the effectiveness of ERP project.

In correlation analysis that all independent variables of Project management practices have strong positive and significance relationship between ERP Implementation in Minaye Group.

The R square value of 0.976 this indicates that 97.6 percent of the variance in project success is attributed to the five independent variables entered into the regression and the remaining 2.4 percent of the variance in the Project management processes may be explained by other factors which are not studied, because they are beyond the scope of study.

The effectiveness of ERP implementation was statistically significant based on (B=0.776, P=0.000) within initiation process, planning process were statistically significant and (B=0.307, P=0.000), execution process were statistically significant and (B=0.107, P=0.000), respectively. However, Monitoring and Control Process and closure process variables were statistically insignificant (B=-0.007, P=0.782), (B=0.012, P=0.634) respectively. There is negative and insignificant relationship between relationships execution process and the effectiveness of ERP implementation; monitoring and control process negative and zero affects within the effectiveness of ERP implementation with a standardized beta of -0.007, and 0.012, within ($p > .001$) respectively.

The analysis of the data revealed several key insights regarding the effectiveness of ERP implementation across the project stages.

First, the initiation process showed a strong positive relationship with ERP implementation effectiveness,

indicated by a coefficient (B) of 0.776 and a p-value of 0.000. Similarly, the planning process also had a statistically significant impact, with a coefficient (B) of 0.307 and a p-value of

0.000. Additionally, the execution process demonstrated significance, exhibiting a coefficient (B) of 0.107 and a p-value of 0.000.

In contrast, both the monitoring and control process and the closure process were found to be statistically insignificant. The coefficients for these processes were -0.007 ($p = 0.782$) and 0.012 ($p = 0.634$), respectively, indicating that they did not significantly contribute to ERP implementation effectiveness.

Furthermore, the data indicated a negative and insignificant relationship between the execution process and the effectiveness of ERP implementation. The monitoring and control process also demonstrated a negligible effect, with standardized betas of -0.007 and 0.012, further emphasizing their minimal impact ($p > 0.001$).

The findings highlight that the initiation, planning and execution processes are critical to the success of ERP implementation, demonstrating strong and statistically significant relationships. In contrast, the monitoring and control, and closure processes show negligible or negative impacts that are not statistically significant. This suggests that improving the initiation, planning and execution phases may be more effective for enhancing ERP implementation outcomes, while the other processes may require further evaluation to understand their roles better. This raises concerns about how monitoring and control, and closure processes practices are being implemented.

The key findings from the Open-ended questions for detailed feedback, insights, and recommendations the general evaluation and recommendation regarding the ERP implementation project in Minaye Group is as detailed below.

The findings from the ERP implementation at Minaye Group highlight several successful aspects: the training programs were well-received, with hands-on workshops significantly enhancing user familiarity with the ERP system; the ERP system streamlined operations, particularly in inventory management and cross-departmental communication, resulting in increased efficiency and faster decision-making; and the implementation fostered better integration between departments, allowing for real-time data access and improved customer service.

The challenges encountered during the ERP implementation included initial resistance to change, as some users were hesitant to adopt the new system due to a lack of involvement in the implementation process; difficulties with data quality during the migration phase, which resulted in delays and inconsistencies; and

insufficient post-launch support, leading to frustration among users who required ongoing assistance.

For future ERP implementations, it is recommended to engage end users early by involving day- to-day users in the planning and implementation phases to gather insights and foster ownership. Additionally, developing comprehensive training resources, including a variety of materials such as video tutorials and manuals, can cater to different learning preferences. Establishing regular feedback mechanisms will create a structured process for ongoing improvements based on user experiences. Furthermore, considering phased rollouts by testing the system in one department before full-scale implementation can help identify issues early. Finally, focusing on continuous improvement by setting up a process for ongoing evaluation and enhancement of the ERP system will ensure it aligns with user feedback and evolving business needs.

The above three summary of findings details the respondent's idea to the questions and their recommendation as they are end user and stakeholders of ERP.

The analysis of the Open-Ended questions revealed that Minaye Group's management recognized an urgent need to replace its legacy sales and distribution systems to enhance operational visibility. However, the decision to implement the ERP system was made without user involvement, leading to significant challenges. Insufficient resources and limited ERP knowledge resulted in outsourcing the project, which was based more on management preference than a thorough partner selection process.

Following poor implementation outcomes and user dissatisfaction, a new director was appointed to rebuild the ERP initiative. This director established a committee to prioritize support requests from all functional areas, ensuring urgent issues were addressed immediately while scheduling less critical requests for future resolution. These findings highlight the importance of user involvement and effective resource management in successful ERP implementation.

CHAPTER FIVE

5. SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This chapter provides an overview of the findings from the study on the effects of project management practices on the effectiveness of ERP implementation at Minaye Group. It summarizes key insights gained from the research, presents conclusions drawn from the analysis, and offers recommendations for relevant stakeholders and to the concerned bodies.

The primary objective of this study is to examine how project management practices influence the effectiveness of ERP projects within the context of Minaye Group. The specific aims included investigating the relationship between these practices and the successful implementation of ERP systems.

In this chapter, we outline the main findings, draw conclusions based on the data collected, and provide actionable recommendations for improving project management practices to enhance ERP implementation effectiveness.

5.2. Summary of Findings

The findings from this study indicate that Minaye Group excels in the initial stages of ERP implementation, particularly in the initiation, planning, and execution processes. The initiation phase is marked by a clearly defined project charter and effective stakeholder engagement, which set a solid foundation for the project. Additionally, the planning process demonstrates strong alignment with best practices, enabling the project team to execute the plan efficiently and adhere to schedules, as evidenced by high mean scores.

However, the results reveal shortcomings in the monitoring and control, as well as the closure processes. These stages did not significantly contribute to the effectiveness of the ERP implementation, highlighting a need for improvement. The monitoring and control processes showed limited impact on tracking project costs and addressing deviations, while the closure process indicated areas for better documentation and feedback mechanisms.

To enhance the overall effectiveness of ERP implementation, it is crucial for the management team to focus on strengthening these latter stages. By refining monitoring and control practices, as well as ensuring a thorough closure process, Minaye Group can better support the sustainability and success of their ERP initiatives.

5.3. Conclusions

This study examined the effects of project management practices on ERP implementation at Minaye Group, focusing on initiation, planning, execution, monitoring and control, and closure processes. Using a mixed-methods approach, the research found that initiation and planning processes significantly and positively influence ERP implementation success. However, challenges such as poor planning, resistance to change, and insufficient post-launch support were identified as barriers to effective implementation. Despite these challenges, respondents expressed satisfaction with the ERP system, highlighting its ability to automate processes, improve efficiency, and enhance inter-departmental collaboration. The findings underscore the importance of aligning ERP projects with organizational objectives and employing modern project management tools and techniques to ensure success.

To enhance future ERP implementations, Minaye Group should prioritize comprehensive training, early engagement of end users, and continuous feedback mechanisms. A phased rollout approach and commitment to continuous improvement will help address challenges such as data migration issues and resistance to change. By integrating these strategies, Minaye Group can maximize the benefits of ERP systems, improve operational efficiency, and achieve greater organizational performance. Future research should explore additional factors affecting ERP outcomes and further investigate the role of project management in ERP implementation success.

5.4. Recommendations

In line with the conclusion mentioned above, here are several recommendations for the top management of Minaye Group, project managers, ERP developers, and, importantly, future researchers.

For the Company's Project Managers

The company should develop the competency of project management in building strong

partnership with consultants and vendors, scope definition and control, and the ability to effectively and efficiently run such complex projects.

The researcher proposes the following corrective measures that should be considered by concerned project managers users and stake holders in order to success of ERP implementation. It is recommended to develop and maintain competencies in project management, provide education and training for staff, and use modern project management techniques and tools to improve project management capabilities in the Minaye Group employee. The project management team must be empowered to effectively manage the project's scope. Scope has a direct tie to budget, project timeline and risk. If increase scope and budget, project timeline and risk increase. Often stakeholders will increase scope without increasing budget or timeline which means the increase their risk of failure exponentially. If the project management team doesn't have the power and ability to manage scope and change then you will end up with a project that never ends and an ERP that is over customized irrespective of the solution you choose.

Project managers should prioritize the **continuous development and enhancement** of their competencies in project management. This involves engaging in ongoing education and training to stay current with modern project management tools, methodologies, and best practices. By investing in professional development, project managers can refine their skills in areas such as risk management, stakeholder engagement, and resource allocation, which are essential for effective project delivery. Internal and external auditors must be engaged in checking whether these practices are effectively implemented and well-documented throughout the project lifecycle. Furthermore, embracing innovative techniques and technologies not only improves efficiency but also fosters adaptability in an ever-evolving project landscape. Ultimately, a commitment to enhancing project management competencies will lead to more successful project outcomes and greater organizational effectiveness.

It is essential to ensure that all ERP initiatives are closely **aligned with the broader strategic goals** of Minaye Group. This alignment not only enhances the likelihood of project success but also ensures that each initiative contributes meaningfully to the organization’s overall objectives. By systematically integrating project planning with the company’s mission and vision, project managers can prioritize initiatives that deliver maximum value and drive organizational growth. Additionally, engaging stakeholders throughout the alignment process fosters a shared

understanding and commitment to the goals, which can lead to improved collaboration and resource allocation. Ultimately, this strategic alignment creates a cohesive framework that supports decision-making, enhances performance metrics, and facilitates the achievement of long-term organizational success.

A clear communication method must be established, as **regular and transparent communication** is essential to keep employees engaged. A cohesive internal communications strategy is crucial for a successful business; it focuses not on grand announcements but on fostering an agile, ongoing dialogue among all employees, departments, and stakeholders. Additionally, incorporating legal documents and memoranda into internal communications can be valuable, along with utilizing emails and other professional platforms to enhance connectivity and information sharing.

Establishing robust monitoring and control processes throughout the ERP implementation lifecycle is crucial for ensuring project success. By developing a structured framework for tracking progress and performance metrics, project managers can identify potential issues early, allowing for timely interventions before they escalate into significant problems. This proactive approach involves setting clear benchmarks, utilizing performance indicators, and conducting regular status reviews to assess alignment with project goals. Additionally, incorporating stakeholder feedback into the monitoring process enhances transparency and fosters accountability among team members. By leveraging advanced project management tools and techniques, organizations can maintain rigorous oversight, adapt to changing circumstances, and ensure that the project remains on track, ultimately leading to a smoother implementation and better overall outcomes.

Utilize contemporary **project management tools and techniques**, such as Scrum and AI, to enhance the efficiency of project management at Minaye Group. Foster closer collaboration between various business units and departments to ensure the successful execution of projects within the organization.

Effective management—both at the project and organizational levels—must be prioritized, as it helps identify managerial styles, assess staff skills, facilitate effective communication, and ensure ongoing training, all of which are crucial for successful implementation. Top management is expected to demonstrate commitment to the ERP implementation by **providing adequate financial and human resources.** There will be instances when swift and decisive actions are

required from leadership to ensure a smooth ERP rollout. Therefore, top management must dedicate all necessary efforts to the successful implementation of the ERP system within the organization.

As this section addresses the summary of open-ended questions regarding recommendations for future implementations, the feedback provided by respondents is included here to directly benefit the company. This input reflects the perspectives of end users and daily users of the ERP system, making it invaluable for informing future strategies. The respondents mentioned, to engage end users early by involving day-to-day users in the planning and implementation phases to gather insights and foster ownership. Additionally, developing comprehensive training resources, including a variety of materials such as video tutorials and manuals, can cater to different learning preferences. Establishing regular feedback mechanisms will create a structured process for ongoing improvements based on user experiences. Furthermore, considering phased rollouts by testing the system in one department before full-scale implementation can help identify issues early. Finally, focusing on continuous improvement by setting up a process for ongoing evaluation and enhancement of the ERP system will ensure it aligns with user feedback and evolving business needs.

For ERP Developers

ERP developers must prioritize **user-centric design** by creating intuitive interfaces and features tailored to the specific needs of Minaye Group employees. By engaging users in the design process and gathering feedback, developers can ensure that the system addresses real-world challenges and workflows, thus enhancing usability. This approach not only facilitates smoother adoption of the ERP system but also empowers employees to utilize its functionalities effectively, leading to increased productivity and efficiency. Furthermore, incorporating adaptive design elements that accommodate various user skill levels can significantly enhance user satisfaction and reduce resistance to change. Ultimately, a focus on user-friendly design fosters a positive experience that encourages widespread engagement with the ERP system, driving better overall performance for the organization.

To ensure successful implementation and effective utilization of the ERP system, it is essential to **develop comprehensive training resources** that clearly explain its functionalities and features.

This includes creating detailed step-by-step guides, video tutorials, and interactive learning modules that cater to various learning styles and experience levels. Additionally, incorporating hands-on training sessions and workshops can foster engagement and provide users with practical experience in navigating the system. By establishing a robust training framework that emphasizes ongoing support and accessibility, organizations can empower all users to become proficient in utilizing the ERP system. This proactive approach not only enhances user confidence and competence but also minimizes disruptions during the transition period, ultimately contributing to a smoother implementation and greater overall satisfaction with the new system.

Encouraging **user feedback** on the ERP system's functionality and usability is vital for fostering a culture of **continuous improvement** within the organization. By implementing structured feedback mechanisms—such as surveys, focus groups, and user forums—project managers can capture valuable insights directly from those who interact with the system daily. This feedback should be meticulously analyzed and leveraged to inform future updates and enhancements, ensuring that the ERP system evolves in alignment with user needs and industry best practices. Furthermore, creating a transparent feedback loop where users can see how their input has influenced system modifications fosters a sense of ownership and engagement among employees. Ultimately, this commitment to continuous improvement not only enhances user satisfaction and operational efficiency but also positions the organization to adapt swiftly to changing business requirements and technological advancements.

For Further Researchers

Future research should delve into the specific **project management practices that significantly influence the success of ERP implementation**, particularly within state-owned enterprises in Ethiopia. This exploration should encompass various stages of project management, including initiation, planning, execution, monitoring, and closure, while also examining essential knowledge areas such as scope, time, cost, quality, and stakeholder management. Researchers should consider evaluating the role of both **internal and external auditors** in assessing whether these practices are effectively implemented and well-documented throughout the project lifecycle. Additionally, it is crucial to engage project teams in discussions to gather insights on their experiences and challenges faced during the implementation process. By adopting a comprehensive approach that incorporates quantitative and qualitative methodologies, the research can identify best practices

and common pitfalls, ultimately providing actionable recommendations that enhance ERP implementation outcomes in the unique context of Ethiopian state-owned enterprises.

Researchers should investigate the profound **impact of organizational culture on ERP** implementation and project management practices, as this relationship plays a critical role in determining project success. By assessing various cultural dimensions—such as communication styles, decision-making processes, and employee engagement—researchers can identify how these factors influence the adoption and integration of ERP systems within organizations. Understanding the nuances of organizational culture can reveal potential barriers to change, as well as enablers that facilitate smoother transitions. Additionally, exploring how cultural aspects affect team dynamics, leadership support, and resistance to change can provide valuable insights for tailoring project management strategies to fit the organizational context. Ultimately, this examination can lead to more effective approaches in aligning ERP initiatives with organizational values and norms, thereby enhancing overall project outcomes and fostering a culture of continuous improvement and innovation.

Longitudinal studies on ERP implementation can yield invaluable insights into the long-term **impacts and causal relationships between project management practices and organizational performance.** By tracking the same organizations over extended periods, researchers can analyze how specific project management methodologies influence the effectiveness of ERP systems and their contribution to strategic objectives. This approach allows for the examination of sustained effects, revealing trends and patterns that may not be apparent in shorter studies. Additionally, such research can highlight the evolution of project management practices in response to changing organizational needs and technological advancements. By employing mixed methods—combining quantitative metrics such as performance indicators with qualitative insights from stakeholder interviews—these studies can provide a comprehensive understanding of the dynamic interplay between project management practices and ERP success. Ultimately, the findings can inform best practices and guide organizations in optimizing their ERP strategies to enhance efficiency, adaptability, and overall performance in an increasingly competitive landscape.

By addressing these recommendations, and the *literature summary and gaps* mentioned in the end of Chapter two in these research, Minaye Group can improve the effectiveness of its ERP implementation, strengthen its project management capabilities, and support the organization's

overall success. Additionally, other researchers can explore alternative methodologies to enhance project management practices, not only for ERP systems but also for other system deployments, ensuring that positive impacts are observed during both implementation and evaluation.

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ANNEX

Annex I. Questionnaire

ST. MARY UNIVERSITY

DEPARTMENT OF PROJECT DEVELOPMENT

Questionnaire regarding the Project management processes in ERP project for Minaye Group Department Managers, Supervisors and End users

Objectives: - The objective of this questionnaire is to evaluate the utilization and implementation of ERP technologies through the lens of project management processes, with the aim of enhancing career paths in management and business development.

Dear Sir/madam;

Your response and rating to each one of the item questions determines the level of authenticity and accuracy of the study and the findings. Hence, with great appreciation request you take a few times and give your response. Thank you in advance.

Directions: - The questionnaire consists of closed ended questions and open-ended questions, the close ended questions have options, depending on the context try to answer those by choosing the best choice from the alternatives and for the open-ended questions answer them based on your experience.

Please Mention for which Minaye Business unit you are filling this questionnaire.

_____ _____

Section 1. Personal Information; Please Provide your answer by tick (✓) mark.

1. Gender

   ☐ Male ☐ Female

2. Age: _____years
3. Qualification

☐ Diploma ☐ Masters

☐ Degree ☐ Phd

4. Designation

Title: _____

Department: _____

5. Years of working experience in Minaye Group companies: _____years

Section 2. Research questions; a five-point format questions are stated below. select the appropriate response option for each statement based on your level of agreement or disagreement. **1- strongly disagree, 2- disagree, 3- neutral, 4- agree and 5- strongly agree.**

Description: Project Management Processes

S. No.	**Research Questions** **Description: Project Management Processes**	1 S.D	2 D.	3 N.	4 A.	5 S.A
1	**Initiation Process:**					
1.1	The ERP project objectives and scope were clearly defined at the initiation stage.					
1.2	The ERP project stakeholders were identified and their needs and expectations were considered during project initiation.					
1.3	The Company had a project charter for the ERP project					
2	**Planning Process:**					
2.1	A comprehensive ERP project plan was developed, including clear milestones, deliverables, and timelines.					
2.2	The ERP project team effectively identified and managed project risks and uncertainties during the planning phase.					
2.3	The ERP planning team utilized the log frame approach as a planning tool					
2.4	The ERP planning team used network diagram for time planning					

2.5	The ERP planning team adopted a bottom-up resource allocation process based on the identification of activities					
3	**Execution Process:**					
3.1	The ERP project team executed the project plan according to the defined schedule and allocated resources.					
3.2	The project team communicated and collaborated effectively with minaye end users during the execution phase, ensuring smooth coordination and progress tracking.					
3.3	The Company adopted realistic project implementation structure					
4	**Monitoring and Control Process:**					
4.1	The ERP project progress was regularly monitored and deviations from the plan were promptly addressed and controlled in each business unit.					
4.2	The project team effectively tracked and managed ERP project costs, ensuring adherence to the allocated budget.					
4.3	The ERP project adopted the Earned Value Management technique to monitor implementation progress					
4.4	Results of performance monitoring were shared timely with project team members					
4.5	Corrective actions were taken following monitoring results					
5	**Closure Process:**					
5.1	The project deliverables were successfully completed and met the predefined quality standards.					
5.2 5.3	Lessons learned from the project were documented and shared to improve future project management practices. Disbanding of project contracts was timely done					
5.4	Celebration of the ERP project completion was done					

Description: ERP Implementation Stages

S. No.	Research Questions	1	2	3	4	5
	Description: ERP Implementation Stages	S.D	D.	N.	A.	S.A
1	The **Project Initiation** stage clearly defined the objectives and scope of the ERP implementation.					
2	The **Requirements Gathering** process effectively captured and documented the business needs for the ERP system.					
3	The **System Selection** stage appropriately evaluated and chose the ERP software that aligned with Minaye's requirements.					
4	The **System Design** phase successfully mapped Minaye's business processes to the ERP system.					
5	The **Development and Configuration** process effectively customized the ERP system to meet specific business requirements.					
6	The **Data Migration** stage from the previous system accurately transferred and validated data from legacy systems to the new ERP system.					
7	The **Testing, Training, Deployment, and Post-Implementation** Support activities were executed effectively to ensure a successful ERP implementation.					

Description: ERP Implementation Evaluation

S. No.	Research Questions	1	2	3	4	5
	Description: ERP Implementation Evaluation	S.D	D.	N.	A.	S.A
1	ERP implementation has realized the expected benefits to the business.					
2	Minaye Groups' productivity is improved after using ERP					
3	Business operational efficiency has been improved after using ERP					
4	Business processes have been updated through use of ERP					
5	ERP allows for better control of business operating expenses					

6	The financial visibility has been improved after implementing ERP					
7	ERP is integrated in the whole business process					
8	ERP has improved customer satisfaction					
9	ERP system is easy to operate and user friendly.					
10	Overall, ERP implementation was successful.					

Section 3. Open-ended questions for detailed feedback, insights, and recommendations the general evaluation and recommendation regarding the ERP implementation project in Minaye.

1. Based on your experience with the ERP implementation project, what aspects do you believe were particularly ***successful or well-executed***? Please provide specific examples or instances that highlight these successes.

_____

_____.

2. In your opinion, what were the major ***challenges*** or obstacles encountered during the ERP implementation project? How do you think these challenges could have been mitigated or ***addressed more effectively***?

_____

_____.

3. Reflecting on the overall outcome of the ERP implementation project, what ***recommendations*** or suggestions do you have for improving future ERP implementations within the organization?

_____

_____.

In conclusion, I would like to express my genuine appreciation for your wholehearted cooperation.

– Kalkidan Beyene

APPENDICES

Appendice I Data analysis

Inferential Analysis

Correlations

		MC	CP	IP	PP	EP	ERP
MC	Pearson Correlation	1	.555**	.296*	.635**	.436**	.471**
	Sig. (2-tailed)		.000	.011	.000	.000	.000
	N	73	73	73	73	73	73
CP	Pearson Correlation	.555**	1	.392**	.537**	.424**	.523**
	Sig. (2-tailed)	.000		.001	.000	.000	.000
	N	73	73	73	73	73	73
IP	Pearson Correlation	.296*	.392**	1	.412**	.177	.924**
	Sig. (2-tailed)	.011	.001		.000	.133	.000
	N	73	73	73	73	73	73
PP	Pearson Correlation	.635**	.537**	.412**	1	.544**	.687**
	Sig. (2-tailed)	.000	.000	.000		.000	.000
	N	73	73	73	73	73	73
EP	Pearson Correlation	.436**	.424**	.177	.544**	1	.414**
	Sig. (2-tailed)	.000	.000	.133	.000		.000
	N	73	73	73	73	73	73
ERP	Pearson Correlation	.471**	.523**	.924**	.687**	.414**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	
	N	73	73	73	73	73	73

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

*. Correlation is significant at the 0.05 level (2-tailed).

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988[a]	.976	.974	.07388

a. Predictors: (Constant), EP, IP, MC, CP, PP

b. Dependent Variable: ERP

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.092	.088		1.042	.301		
	MC	-.006	.022	-.007	-.278	.782	.528	1.892
	CP	.012	.025	.012	.478	.634	.587	1.703
	IP	.579	.016	.776	35.915	.000	.780	1.282
	PP	.289	.027	.307	10.809	.000	.452	2.213
	EP	.100	.022	.107	4.582	.000	.667	1.498

a. Dependent Variable: ERP